

ВОЕННО- ИСТОРИЧЕСКИЙ СБОРНИК

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Abstract

A new book of the project "The Great Patriotic Catastrophe", dedicated to one of the most controversial and mysterious pages of Russian history - the tragedy of 1941. No censorship and ideological prohibitions! Clash of scientific theories and political beliefs! The most famous researchers and military historians Mark Solonin, Mikhail Meltyukhov, Lev Lopukhovskiy, Dmitry Khmelnitsky and others answer the most important and urgent questions: Why was the Red Army unable to keep the enemy on the western borders of the USSR? Why was the Luftwaffe able to gain complete air supremacy so quickly? Could the Soviet tank troops resist the onslaught of the Panzerwaffe? What was the actual balance of forces on the Eastern Front on June 22, 1941?

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- [The Great Patriotic Disaster - 3 \(collection\) Mikhail Meltyukhov. The problem of the correlation of forces of the parties by June 22, 1941 Mark Solonin. Attack on airfields - myths and facts Lev Lopukhovskiy. In the first days of the war, Boris Kavalerchik. What tanks were better in 1941?](#)
 - [Introduction Factors that determine the appearance of tanks Purpose of tanks Tank troops of Germany Soviet tank troops](#)
 - [The result of the first battles Dmitry Khmelnitsky. The only defeat of Stalin Andrey Morozov. Si vis race para bellum Vladislav Goncharov. History](#)
 - [or](#)
 - [—](#)
 - [—](#)
- [propaganda? notes 1 2 3](#)

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- [41](#)
- [42](#)
- [43](#)
- [44](#)
- [45](#)
- [46](#)
- [47](#)
- [48](#)
- [49](#)
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 - [205](#)
 - [206](#)
 - [207](#)
 - [208](#)
 - [209](#)
 - [210](#)
 - [211](#)
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Great Patriotic catastrophe - 3 (compilation)

Mikhail Meltyukhov. The problem of the balance of forces of the parties by June 22, 1941

One of the important problems of the beginning of the Great Patriotic War, which is directly related to the discussion about the reasons for the defeats of the Red Army, is the question of the balance of forces of the parties by June 22, 1941. For a long time, the development of this issue in Russian historiography was carried out in line with the official guidelines formulated back in 1941 in the speeches of I.V. Stalin, who, in a speech on July 3, stated that Germany had thrown 170 divisions against the USSR, and in a speech partly on November 6, about "we have a shortage of tanks and [\[1\]](#)". It is quite obvious that such a version is easy and aviation "simply explained the reasons for the "temporary failures" of the Soviet troops, so it was actively used in the literature, which emphasized the quantitative and qualitative superiority of the enemy's weapons, adjusting all statis

True, in the first decade after 1945, Soviet historiography generally tried to pass over in silence the question of specific indicators of the number of troops of the parties, confining itself to the ritual phrase about the superiority of the enemy in forces. Thus, in the second edition of the Great Soviet Encyclopedia, it was indicated that *"in total, fascist Germany concentrated more than 200 divisions on the western borders of the USSR, of which 170 were German (including 19 tank and 14 motorized), not counting auxiliary units."* It was further emphasized that *"the multi-million army of the Nazis, equipped with a large amount of modern military equipment, at the time of the surprise attack on the Soviet Union, had a numerical superiority of mobilized and ready for battle troops, had a quantitative advantage in tanks, aircraft, as well as mortars and machine guns."* As a result, *"on the very first day of the war, a blow from the Nazi hordes, which had 2 years of combat experience, hit the small Soviet cover troops."*

conducting modern warfare in the West and numerical superiority, especially in tanks and aircraft" [2].

Gradually, specific figures began to appear in Soviet historiography, characterizing the state of the troops of the parties. Analysis of domestic literature allows us to trace how ideas on this issue have changed.

Probably, consideration of this problem should begin with the German armed forces, since there is a widespread belief that they have accurate numerical data compiled with German pedantry, which have long been introduced into scientific circulation. Unfortunately, the information cited in the domestic historical literature is far from consistent with this opinion. For the first time in Soviet historiography, some figures on the total strength of the German armed forces appeared in the "Essays on the History of the Great Patriotic War of 1941–1945." This work pointed out that by the summer of 1941, the Wehrmacht had 215 divisions and 6,500 aircraft, of which 170 divisions were allocated to attack the USSR, as well as 38 divisions of Germany's allies, [3] supported by almost 5 thousand aircraft. Three years later, in the military history essay "The Second World War 1939-1945." with reference to data published in German literature, it was indicated that by the middle of 1941 the Wehrmacht had 214 divisions and 7 brigades, and the total number of German armed forces was 7234 thousand people. In total, 152 divisions and 2 brigades of the Wehrmacht, 29 divisions and 16 brigades of its allies were allocated for the attack on the Soviet Union, which were supported by almost 4900

aircraft [4].

The first military historical study in Soviet historiography, in which the issues of the number of troops of the parties were considered much more specifically and systematized, was the "Strategic Sketch of the Great Patriotic War of 1941-1945", published by the Military Scientific Directorate of the General Staff of the Soviet Army under the heading "top secret ". Estimating the strength of the Wehrmacht by the summer of 1941, the authors of this study do not cite specific sources, limiting themselves to indicating that "data on the strength of the armed forces were derived by calculation on the basis of German captured documents." As a result, given in

book scores, as far as we know, are the highest (Table 1). *Table 1*

Options for

estimating

the total strength of the Wehrmacht

[5].

| | I | II | III | IV | V | VI |
|------------------------------|--------|--------|------------|------------|-----------------|--------|
| Личный состав (тыс. чел.) | 9213 | 7234 | св. 8500 | 7254 | 7300 | 7300 |
| Дивизии | 214 | 214 | 214 | 214 | 208 | 208 |
| Бригады | 7 | ? | 7 | 7 | 6 | 6 |
| Орудия и минометы | 77 800 | ? | ок. 78 000 | св. 61 000 | 71 500 | 71 500 |
| Танки и штурмовые орудия | 11 000 | 5640 | 11 000 | 5639 | 5600 | 5600 |
| Самолеты | 10 100 | 10 000 | ок. 11 000 | св. 10 000 | 10000 (5700) | 5700 |

However, in volume 1 published in the early 1960s. 6-volume "History of the Great Patriotic War of the Soviet Union 1941-1945" somewhat different information was already given about the total number of German armed forces - probably adjusted according to data published in German literature (see table 1). In 1965, a brief history of the war was published, in which, without reference to sources, new information was given about the total strength of the Wehrmacht, which was clearly borrowed from the aforementioned "Strategic Outline of the Great Patriotic War" (see table 1). In 1971, this information was published in the third edition of the Great Soviet Encyclopedia. New clarifications of information about the total strength of the Wehrmacht appeared in volumes 3 and 4 of a 12-volume fundamental study on the history of World War II (see table 1). The figures published in this work actually became canonical and were widely used in various works [7] until the second half of the 1980s. However, in the 1990s, these data were - .

again revised. For the first time, new numbers appeared in 1994 in volume 2 of the Military Encyclopedia (see table 1). The same information is given in the latest generalizing work on the history of the war by Russian military historians (see Table 1), as well as in volume 4 of the Great Russian Encyclopedia and Military Thus, on the issue of a general encyclopedic dictionary, the number of Wehrmacht historiography uses [8] . to In the summer of 1941, Russian information gleaned from German literature, but

does not directly use original documents of the former enemy.

A similar process took place on the issue of estimates of the size of the group allocated by Germany and its allies to attack the USSR. The figures published in the "Strategic Sketch of the Great Patriotic War" were based either on calculated data or on materials published in German literature (see Table 2). True, these figures were somewhat changed in Volume 1 of the 6-volume History of the Great Patriotic War of the Soviet Union (see Table 2). At the same time, various information was given on the issue of the number of tanks in the German troops deployed for Operation Barbarossa, not only in volumes 1 and 2 of this publication, but also in different editions of volume 2. So, initially the number of German tanks was estimated at 3500 vehicles, but then it was [10] increased to 3700 vehicles. True, in neither case were any references to sources made. In the first edition of the brief history of the war, without references to sources, new information was provided about the grouping allocated for the war with the USSR (see Table 2). A few more corrected figures on the size of the grouping of troops of Germany and its allies by June 22, 1941 were given in the anniversary edition of the history of the Soviet armed forces (see table 2). In 1970, the same data, indicating that 3,712 German tanks included 2,786 medium and 926 light tanks, were published in volume 5 of the History of the CPSU [11]. However, a brief popular science essay on the history of the war published in the same year cited a variant of the corresponding figures from a brief history of 1965 [12]. True, the following year, in the third edition of the Big Year [13], figures were given from the History of the Soviet Encyclopedia of the CPSU, which were also used in the fundamental multi-volume History of the USSR [14]

Somewhat corrected figures on the size of the enemy grouping allocated for the attack on the Soviet Union were given in volumes 3 and 4 of the 12-volume fundamental work on the history of World War II (see Table 2). Later publications up to the second half of the 1980s used

[15] exactly this information *Table 2*

Options for estimating the number of troops deployed for the attack on the USSR [46]

| | I | II | III | IV | V | VI | VII |
|---------------------------|--------|-------------|----------|--------|------------|----------|--------|
| Личный состав (тыс. чел.) | 5500 | ок. 5000 | 5500 | 5500 | 5500 | 5000 | 4998 |
| Дивизии | 181 | 181 | 181 | 190 | 181 | 182 | 182 |
| Бригады | 18 | 18 | 18 | — | 18 | 20 | 20 |
| Орудия и минометы | 50 000 | св. 50 000 | 48 000 | 47 260 | св. 47 200 | 47 200 | 47 200 |
| Танки и штурмовые орудия | 3712 | 3410 [3700] | ок. 2800 | 3712 | св. 4200 | ок. 4400 | 4539 |
| Самолеты | 4950 | 4940 | 4950 | 4950 | 4950 | 4400 | 4361 |

Some clarification of the corresponding figures occurred in the 1990s based on the use of materials that appeared in German historiography. This information was first used in 1991 in an article by M.I. Meltyukhov, who also pointed out that far from all the troops of Germany and its allies were deployed on the border with the USSR by June 22, and therefore information about the total number of these troops distorts the real balance of forces at the beginning of the war [17]. The first official publication, in which somewhat updated data on enemy troops appeared by June 22, 1941, was Volume 2 of the Military Encyclopedia (see Table 2). More detailed figures on this issue are given in Book 1 of Military Historical Essays on the Great Patriotic War (see Table 2). In addition, it should be noted that it was in this work that it was clearly stated that by June 22, 1941, there were 153 divisions and 19 brigades on the border of the Soviet Union (of which 125 German divisions and 2 brigades), about 4.4 million people, about 39 thousand guns and mortars, over 4 thousand tanks and about 4.4 thousand combat aircraft works [21]. Indeed, it should be noted [18].

[20] — , — , encyclopedia" that in a recent statistical study, the size of the enemy grouping, without any explanation and reference to the source, was again determined at 5.5 million people, 181 divisions and 18 brigades, 47,260 guns and mortars, 4260 tanks and assault guns and 4980 aircraft [22].

Thus, it is quite obvious that over time, the information given in Russian historiography about the number of troops of Germany and its allies is more and more clearly borrowed from German literature, and not at all from the reporting documents of the Wehrmacht. Despite the presence of a fairly large number of studies that considered the composition and size of the Wehrmacht and its allies by June 22, 1941, Russian historiography practically does not provide information about the number of enemy troops in strategic directions. For the first time, not only in Soviet, but also in foreign historiography, such calculated data on the distribution of German troops by army groups and troops of the OKH reserve were given in the secret Strategic Outline of the Great Patriotic War (see Table 3). However, in this case, the source of information was not indicated at all. Moreover, the calculation of personnel was given only according to the nominal strength of divisions and brigades, which reduced the total number of troops (including 24 divisions of the OKH reserve and the troops of Finland and Romania) to 2993 thousand people. Thus, the team of authors of this work did not have at their disposal specific data that would have been taken directly from the documents of the former enemy. True, it should be noted that this information has remained inaccessible to the vast majority of researchers. The only thing that was originally used in the open was the numbers on the number of enemy air groupings from Table 3. *Table 3* [24]

printing [23]

| | В Финляндии | Группы армий | | | Резерв ОКХ |
|------------------------------|-------------|--------------|---------|--------|---------------|
| | | «Север» | «Центр» | «Юг» | |
| Личный состав (тыс. чел.) | 326 | 455 | 820 | 992 | 400 |
| Дивизии расчетные | 22,5 | 29 | 51 | 63,5 | 24 |
| Орудия и минометы | 4000 | 8770 | 14 390 | 15 940 | 6900 |
| Танки и штурмовые орудия | 267 | 590 | 1765 | 725 | 365 |
| Самолеты | 900 | 1070 | 1680 | 1300 | — |

Thus, oddly enough, Russian historiography does not directly use Wehrmacht documents, which would indicate in detail the number of troops at the beginning of Operation Barbarossa.

Let us now turn to German historiography. It seems that the majority of readers are sure that the German authors have covered all these issues in detail. However, this is not the case at all. Until now, German historiography does not have a single detailed study of the size and distribution of the Wehrmacht in theaters of military operations during the Second World War. The issues of the combat composition of the German armed forces and general information about their strength during the war years are considered in most detail [25]. These data allow us to get a fairly accurate idea of the composition and strength of the German armed forces by the summer of 1941. However, there is no such clarity on the issue of the number of troops allocated for Operation Barbarossa. There is not even a simple list of the number of troops by army groups by June 22, 1941. At the same time, there are several options for data on the total number of this group.

For the first time, data on the deployment of 3.3 million German ground forces for the war against the Soviet Union were published in 1956 in the now classic work of B. Müller-Hillebrand [26] and then repeatedly repeated in German literature. However, other information on this issue was given in German historiography. So, in the work of H.-A. Jacobsen, the number of German ground forces allocated to attack the USSR was determined at 153 divisions, 3050 thousand people, 7184 guns, 3580 tanks and 600 thousand. [27] taken from the report of the inspector of artillery and the quartermaster general of June 20, 1941, which reported the presence in the ground forces in cars the East of 3050 thousand people, 625 thousand horses, 600 thousand cars and armored vehicles, 3350 tanks (without [28] assault and self-propelled guns) and 7146 guns. At the same time, in the diary of the Chief of the General Staff of the German Ground Forces, Colonel General F. Halder, it is indicated that the number of troops in the [29] East is 2.5 million people. Probably, in this case we are talking about the troops that directly fought on Soviet territory, without taking into account the reserves of the OKH.

Traditionally, in German historiography, a significant part of the artillery of the troops in the East is not taken into account at all. However, the information given in the book by B. Müller-Hillebrand on the organization and main types of weapons in divisions as of May 15, 1941, makes it possible to obtain indicative information on this issue. In the same way, there is no consensus in German literature about the number of tanks and assault guns that were in service with the troops deployed to attack the USSR (see Table 4). Comparing the information given in the table with the above report of the quartermaster general, we can conclude that, apparently, the figures given in the fundamental work "The German Reich and World War II" are the closest to reality. Moreover, the total number of tanks indicated in it corresponds well with the data on the number of tanks in tank divisions from the document of the General Staff of the Wehrmacht Ground Forces published by B. Müller-Hillebrand

[30]. The information cited by T. Yentz without indicating the source often diverges from the already known data available in German historiography. In addition, foreign historiography contains somewhat different information on the number of Wehrmacht tank divisions [31].

by June 22 *Table 4 Variants of the number of tanks in the troops allocated to attack the USSR* [32]

| Тип танка | I | II | III | IV |
|------------------|----------|------------|------|-----------|
| T-I | ок. 180 | 180 | 281 | 152 |
| T-II | 746 | 746 | 743 | 793 |
| T-35(t) | — | 106 | 157 | 155 |
| T-38(t) | 772 | 772 | 651 | 625 |
| T-III | 965 | 965 | 979 | 976 |
| T-IV | 439 | 439 | 444 | 439 |
| Командирские | 230 | 230 | 143 | 188 |
| Всего | ок. 3332 | 3438 + 106 | 3398 | 3328 + 84 |
| Штурмовые орудия | ок. 250 | 250 | 250 | ? |
| Итого | ок. 3582 | 3794 | 3648 | 3412 |

Similar disagreements exist over the size of the Luftwaffe assigned to Operation Barbarossa. So, in the first edition of his work H.-A. Jacobsen cited a figure of 2000 aircraft, more than

later editions, this number increased first to 2150, and then to [33] by the researcher. According to data published in 1981, 2740 aircraft from the GDR O. Gröler, the German Air Force, taking into account the reserve, allocated 3519 aircraft for the operation, and the German allies deployed 1019 aircraft (including Finland - 307, Romania - 423, Slovakia - 51, Hungary - 100, Italy - 83 and Croatia - 55). Thus, the total number of the German Air Force and its allies [34] by June was 4538 aircraft. However, in 1988, ²² the same author cited other data, according to which the Luftwaffe allocated 3604 aircraft, and their allies - 1177 aircraft (of which 307 were Finnish, 560 Romanian, 100 Hungarian, 100 Italian, 60 Croatian and 50 Slovak). Accordingly, the total number of aircraft increased to 4781 [35]. Apparently, the most complete data on the size of the Luftwaffe aircraft fleet is given in the 4th volume of the study "The German Reich and the Second World War", according to which, on June 21, 1941, there were 3904 aircraft in the Air Force allocated for operations against the USSR. Unfortunately, on the issue of distribution The number of personnel of the Luftwaffe has not yet been published. [36]

Thus, in the German historiography of interest to us, there is no exhaustive information about the number of Wehrmacht troops allocated for the war with the Soviet Union. Therefore, when determining the number of Wehrmacht personnel and artillery, one has to use calculated data. Typically, information is used on the staffing of divisions, but the question of how much the staffing and payroll coincided was never discussed in historiography. In addition, it is quite obvious that the number of divisions allocated for Operation Barbarossa is clearly less than the total strength of the ground forces grouping allocated for the war in the East. Based on the differences in these data, it was necessary to introduce a constant coefficient of 6690 people for each division in the army groups deployed between the Baltic and Black Seas. Thus, it is possible to more fully estimate the number of personnel of specific groupings of ground forces. Naturally, these data cannot be considered final

and, most likely, are somewhat overestimated. In the same way, the data on the number of personnel of the Air Force are calculated,

obtained based on the share of air units deployed for Operation Barbarossa, air defense units, communications, etc. As already indicated, the estimate of the number of artillery was also calculated from indirect data, so the figures obtained may also be somewhat overestimated.

Using the information and calculation materials published in German historiography, one can obtain the following data on the size of the enemy force grouping. On June 15, 1941, 7329 thousand people served in the Wehrmacht, of which 3960 thousand were in the active army, 1240 thousand were in the reserve army, 1545 thousand were in the Air Force, 160 thousand were in the SS troops, 404 thousand were in the Navy, about 20 thousand - in foreign formations. In addition, up to 900 thousand people accounted for the civilian staff of the Wehrmacht and various [37] ^{of} paramilitary formations. The ground forces had 208 divisions (152 infantry, 5 light infantry, 6 mountain infantry, 1 cavalry, 10 motorized, 20 tank, 9 security, 1 police, as well as 3 divisions and 1 SS battle group), SS Leibstandarte "Adolf Hitler", 1 motorized and 2 tank brigades, 2 infantry regiments, 11 divisions and 5 assault gun batteries, 6 tank battalions, 14 motorized anti-tank battalions, 38 cannon, 12 mixed, 39 howitzer, 22 mortar divisions, 20 batteries of railway artillery, 7 divisions and 5 regiments of six-barreled chemical mortars, 10 mixed anti-aircraft divisions, 9 anti-aircraft battalions, 10 anti-aircraft divisions, 29 anti-aircraft batteries, 14 armored trains, as well as other support units and rear services [38] As of June 1, 1941, the Wehrmacht was armed with 88,251 guns and mortars, 6292 tanks, assault and [39] self-propelled guns and — 6852 aircraft. Taking advantage of the absence of a land front in Europe, Germany was able to deploy the most combat-ready part of armed forces on the border with the USSR^{its}.

The basis of the "Eastern Army" of Germany was, of course, the ground forces, which allocated 3,300,000 people. For Operation Barbarossa, out of the four available army group headquarters, three were deployed (North, Center and South), 8 (61.5%) of the 13 field army headquarters, which led the actions of 34 army corps headquarters (73, 9%) of the 46 available in the Wehrmacht. In total, 101 infantry, 4 light infantry, 4

mountain infantry, 10 motorized, 19 tank, 1 cavalry, 1 police, 9 security divisions, 3 divisions, 1 SS battle group, SS Leibstandarte "Adolf Hitler", as well as 1 motorized brigade, 1 motorized infantry regiment and a combined SS formation - over all 155 settlement divisions, which accounted for 73.5% of their total number. Most of the troops had combat experience gained in previous military campaigns. So, out of 155 divisions in military operations in Europe in 1939-1941. 127 participated, and the remaining 28 were partially manned by personnel who also had combat experience. In any case, these were the most combat-ready units of the [40].

Wehrmacht. Here, in the East, 92.8% of the units of the High Command Reserve (RGK) were deployed, including all divisions and batteries of assault guns, 3 out of 4 battalions of flamethrowing tanks, 11 out of 14 armored trains, 92.1% of cannon, mixed, mortar, howitzer divisions, railway batteries, batteries of tethered balloons, Karl installations, air defense divisions, divisions and regiments of chemical mortars, motorized reconnaissance, machine gun, anti-aircraft battalions, anti-aircraft batteries, anti-tank fighter and anti-aircraft artillery divisions of the RGK, as well as 94.2% of engineer, bridge building, construction, road construction, scooter battalions, degassing and road degassing detachments. Of these parts of the RGC, 23% were deployed in the North Army Group, 42.2% in the Center Army Group, 31% in the South Army Group, 3% in the German troops operating in Finland, and 0.8% was in the OKH reserve [41]. The main striking force of the troops in the East were 11 motorized corps out of 12 available in the Wehrmacht (91.7%). 10 of them were combined into four tank groups by June 22, 1941, the composition of which is indicated in table 5. In addition, there were 228 combat vehicles in 11 divisions and 5 batteries of assault guns of the RGK, and 30 assault guns were in service with SS divisions "Reich" and "Dead Head", the SS Leibstandarte "Adolf Hitler", the 900th motorized brigade and the motorized regiment "Grossdeutschland" (258 assault guns in total). For operations in Finland, two tank battalions (40th and 211th) w

tanks (100th, 101st and 300th) there were up to 117 combat vehicles. In addition, the 701st, 702nd, 705th and 706th companies of self-propelled 150-mm guns, assigned to the 9th, 1st, 7th and 10th tank divisions, respectively, had 24 combat vehicles, and in service with the 521st, 529th, 559th, 561st, 611th, 616th, 643rd and 670th anti-tank battalions of the RGK and anti-tank companies of the SS Viking division and the SS Leibstandarte "Adolf Hitler" there were 156 self-propelled 47-mm anti-tank guns. Thus, by June 22, 1941, the "Eastern Army" included up to 4058 tanks, assault and self-propelled guns, and in the OKH reserve in Germany [42] there were 2 tank divisions (about 350 tanks) *Table 5 [43]*

| Танковая группа | Корпусов | МД | ТД | Танков |
|-----------------|----------|----|----|--------|
| 1-я | 3 | 4 | 5 | 799 |
| 2-я | 3 | 3 | 5 | 953 |
| 3-я | 2 | 3 | 4 | 1 014 |
| 4-я | 2 | 3 | 3 | 631 |
| Итого | 10 | 13 | 17 | 3 397 |

By June 22, 1941, 127 divisions, 2 brigades and 1 regiment were located on the border with the USSR out of 155 divisions in three army groups and the army "Norway" (see table 6). These troops numbered 2,812,400 people, 37,099 guns and mortars, 4,058 tanks, assault and self-propelled guns [44]

Table 6 Grouping of the Wehrmacht near the borders of the USSR on June 22, 1941 [45].

| Соединение | Дивизии | | | | | | | | Полки | Всего |
|------------------|---------|-----|-------|----|-----|----|---------|------|-------|----------|
| | пд | лпд | мд | тд | гпд | кд | дСС | охрд | | |
| Армия «Норвегия» | 1 | — | — | — | 2 | — | 1* | — | — | 4 |
| ГА «Север» | 20 | — | 2 | 3 | — | — | 1 | 3 | — | 29 |
| ГА «Центр» | 31 | — | 5,5** | 9 | — | 1 | 2*** | 3 | 1 | 51,5+1/3 |
| ГА «Юг» | 26 | 4 | 2 | 5 | 2 | — | 1,5**** | 3 | — | 43,5 |
| Итого | 78 | 4 | 9,5 | 17 | 4 | 1 | 5,5 | 9 | 1 | 128+1/3 |

* SS Battle Group Nord. **

Including the 900th motorized brigade. ***

The combined SS formation, temporarily subordinated to the army group, was taken into account, consisting of 4 motorized infantry and 2

cavalry regiments.**** Including Leibstandarte C C "Adolf Hitler".
The

German Air Force deployed 60.8% of the flying units, 16.9% of the air defense troops and over 48% of the signal troops and other units to support Operation Barbarossa. Each army group received one air fleet. Army Group North was supported by the 1st Air Fleet as part of the 1st Air Corps, the Baltic Air Command and the Königsberg Air District. The 2nd air fleet, consisting of the 8th and 2nd air corps, the 1st anti-aircraft corps and the Posen air district, supported the Army Group Center. To support Army Group South, the 4th Air Fleet was allocated as part of the 5th and 4th Air Corps, the 2nd Anti-Aircraft Corps, two air districts - Breslau and Vienna, and the Air Force mission in Romania. The actions of the army "Norway" were supported by part of the forces of the 5th Air Fleet, subordinate to the "Inspector General of the Air Force of Northern Norway" and the air command "Kirkenes" [46] . In addition, 51 aircraft were at the disposal of the Air Force High Command (OKL). The composition of the air fleets is

shown in Table 7. *Table 7* [47]

| | Воздушные флоты | | | | ОКЛ | Всего |
|--------------------------------------|-----------------|-----|-------|-------|-----|-------|
| | 5-й | 1-й | 2-й | 4-й | | |
| Личный состав (тыс.) | 19,4 | 138 | 284,7 | 199,4 | 8,5 | 650 |
| Бомбардировщики | 22 | 271 | 299 | 360 | — | 952 |
| Истребители | 12 | 203 | 384 | 366 | — | 965 |
| Истребители-бомбардировщики | 4 | — | 98 | — | — | 102 |
| Пикировщики | 40 | — | 425 | — | — | 465 |
| Дальние разведчики | — | 10 | — | — | 51 | 61 |
| Морские, погодные разведчики | 20 | 56 | 46 | 46 | — | 168 |
| Транспортники | — | 62 | 115 | 115 | — | 292 |
| Всего | 98 | 602 | 1 367 | 887 | 51 | 3 005 |
| Тактическое подчинение группам армий | | | | | | |
| Дальние разведчики | — | 52 | 41 | 48 | — | 141 |
| Ближние разведчики | 10 | 87 | 170 | 149 | — | 416 |
| Самолеты связи | 9 | 84 | 124 | 109 | — | 326 |
| Транспортники | — | 5 | 10 | 6 | — | 21 |
| Всего | 19 | 228 | 345 | 312 | — | 904 |
| Итого | 117 | 830 | 1 712 | 1 199 | 51 | 3 909 |

In total, the German command allocated 4,050,000 people to attack the Soviet Union (3,300,000 in the ground and SS troops, 650,000 in the Air Force and about 100,000 in the Navy). The "Eastern Army" consisted of 155 calculated divisions, 43,812 guns and mortars, 4,408 tanks, assault and self-propelled guns, and [48] 3,909 aircraft. However, of these forces, on June 22, 1941, 128 settlement divisions were deployed on the Eastern Front, and the German group consisted of 3,562,400 people, 37,099 guns and mortars, 4,058 tanks, assault and self-propelled guns, and 3,909 aircraft. Together with Germany, her allies were

preparing for the war against the Soviet Union: Finland, Slovakia, Hungary, Romania and Italy, who allocated the following forces to wage the war (see table 8). In addition, Croatia allocated 56 aircraft and up to 1.6 thousand people. By June 22, 1941, there were no [49]. Slovak and Italian troops on the border, which arrived later. Consequently, in the troops of the German allies deployed there, there were 767,100 people, 37

settlement divisions, 5502 guns and mortars, 306 tanks and 886 aircraft.

Table 8 [50] .

| | Личный состав | Дивизии расчетные | Орудия и минометы | Танки | Самолеты | |
|-----------|---------------|-------------------|-------------------|-------|----------|-------|
| Финляндия | 340 600 | 17,5 | 2047 | 86 | 307 | |
| Словакия | 42 500 | 2,5 | 246 | 35 | 51 | |
| Венгрия | 44 500 | 2,5 | 200 | 160 | 100 | |
| Румыния | 380 400 | 17,5 | 3255 | 60 | 423 | |
| Италия | 61 900 | 3 | 925 | 61 | 83 | |
| Итого | 869 900 | 42,5 | 6673 | 402 | 964 | Total |

By June 22, 1941, the forces of Germany and its allies on the Eastern Front numbered 4,329,500 people, 166 settlement divisions, 42,601 guns and mortars, 4,364 tanks, assault and self-propelled guns, and 4,795 aircraft (of which 51 were at the disposal of the Air Force High Command and together with 8.5 thousand people of the Air Force personnel are not taken into account in further calculations).

The question of the size of the Soviet armed forces by the summer of 1941 was solved in no less complicated way in Russian historiography. Naturally, all this data remained secret for a long time and was not published. So, neither in the 7th volume of the second edition of the "Great Soviet Encyclopedia", nor in the "Essays on the History of the Great Patriotic War of 1941-1945", nor in the military-historical essay "The Second World War of 1939-1945", nor even in 6 - volume "History of the Great Patriotic War of the Soviet Union 1941-1945" the size of the Red Army was not indicated at all. In the last work, either percentage data were published from unknown figures, or separate information that made it impossible to present the real size of the Soviet armed forces. For example, it was indicated that in the western border districts there were 1475 KV and T-34 tanks. *"True, the troops had a significant number of old-type tanks (BT-5, BT-7, T-26, etc.), which were planned to be removed from service over time. But [51] many of these tanks were out of order"*

As far as one can judge, for the first time specific data on the size of the Red Army were published in the aforementioned secret "Strategic Sketch of the Great Patriotic War." These figures clearly did not fit into the established version of the complete superiority of the enemy (see tables 9 and 12). Moreover, in this work, for the first time, information was given on the number of troops of all the western border districts (see Table 10), which made it possible to give a fairly detailed picture of the balance of forces not only in general (see Table 11), but also in strategic directions. True, it should be borne in mind that the data on the number of personnel given in Table 10 refer only to the ground forces without taking into account the personnel of the Air Force, Air Defense and Navy.

Table 9 [52] *Options for estimating the size of the Soviet armed forces*

| | I | II | III | IV | V | VI |
|---------------------------|--------|---------------|---------------|----------------|---------|----------------|
| Личный состав (тыс. чел.) | 5427,3 | 5373 | 5400 | 5700 | 5680,7 | 5700 |
| Дивизии | 303 | 303 | 303 | 303 | 303 | ? |
| Бригады | 19 | ? | 19 | 3 | 19 | ? |
| Орудия и минометы | 91 493 | св. 67 000 | 115 900 | св. 114 500 | 117 589 | св. 114 500 |
| Танки | 18 680 | 1861 | св. 23 000 | св. 23 000 | 18 691 | св. 23 000 |
| Самолеты | 15 990 | 2 700 | 22 164 | ок. 15 800 | 16 052 | ок. 13 000 |

Table 10 [53]

| | ЛВО | ПрибОВО | ЗапОВО | КОВО | ОдВО |
|---------------------------|-------|---------|--------|--------|-------|
| Личный состав (тыс. чел.) | 333,4 | 341,2 | 590,6 | 797,3 | 297,2 |
| Дивизии расчетные | 21,5 | 25,5 | 44 | 58 | 22 |
| Орудия и минометы | 7750 | 6847 | 13 045 | 13 634 | 5 554 |
| Танки | 1543 | 1274 | 2189 | 4785 | 743 |
| Самолеты | 1563 | 1304 | 2114 | 2256 | 1216 |

Table 11 [54]

| | Красная Армия | Противник | Соотношение |
|---------------------------------|------------------|-----------|-------------|
| Дивизии | 171 | 190 | 1 : 1,1 |
| в т.ч. сд, пд, кд, охр. д | 111 | 154,5 | 1 : 1,4 |
| тд | 40 | 19 | 2,1 : 1 |
| мд | 20 | 16,5 | 1,2 : 1 |
| Личный состав (тыс. чел.) | 2901 | 5500 | 1 : 1,8 |
| в т.ч. в дивизиях и бригадах | 1566 | 2993 | 1 : 1,9 |
| Орудия и минометы | 46 830 | 50 000 | 1 : 1,07 |
| в т.ч.: ПТО | 6275 | 11 930 | 1 : 1,8 |
| 75-мм и выше | 14 365 | 14 300 | 1 : 1 |
| минометы | 21 695 | 20 810 | 1,04 : 1 |
| зенитные орудия | 4495 | 2960 | 1,5 : 1 |
| Танки | 10 534* | 3712 | 2,4 : 1 |
| из них тяжелые и средние | 1522 | 1679 | 1 : 1,1 |
| легкие | 7648 | 1783 | 4,2 : 1 |
| Самолеты | 8453* | 4950 | 1,7 : 1 |
| в т.ч. бомбардировщики | 3281 | 2600 | 1,2 : 1 |
| истребители | 4758 | 1580 | 3 : 1 |
| разведчики | 414 | 770 | 1 : 1,8 |

* Tanks and aircraft are only serviceable, data as of June 1, 1941

year, excluding the Air Force of the Navy.

It is quite obvious that the open publication of such figures would clearly contradict the version of overwhelming enemy superiority, therefore, in the works accessible to the general reader, somewhat different information was given, which, nevertheless, was based on data from the Strategic Essay. In the jubilee work on the history of the Soviet armed forces, for the first time, the corresponding numerical data corrected for the mass reader on the size of the Soviet grouping in the western border districts were published (see Table 12). At the same time, it was indicated that "in addition, the border districts had a significant number of light tanks of obsolete designs with limited motor resources." On the question of the total strength of the Soviet armed forces, only the total number of divisions (303), as well as guns and mortars (91,493) was indicated, clearly borrowed from the Strategic Sketch.

In the same 1968, Marshal M.V. Zakharov's work "On the Eve of the Great Trials" was published under the heading "secret", which provided a number of more objective data on the size of the Soviet armed forces, which numbered 5,421,122 people by the beginning of the war and were armed with as of June 1, 1941, 13,088 serviceable tanks (excluding T-37, T-38, T-40 and flamethrower). In addition, the appendices to the work provided information from the mobilization plan on the availability of military equipment as of January 1, 1941. Accordingly, by that time in the Red Army [56]

there were 95,039 guns and mortars, 22,531 tanks and 26,263 aircraft. It is clear that all — . this information was also not used in the open press. The book itself became available to a wide range of researchers only in 2005.

Meanwhile, information about the size of the grouping of Soviet troops in the western border districts from the book "50 Years of the Armed Forces of the USSR" was given in a brief popular science essay on the history of the Great Patriotic War published two years later [57]

— , in the second edition of the brief history of the war [58] "The — , and also in same publication Great Soviet Third [59]. At the encyclopedias" time, data were published in the fundamental "History of the CPSU" that by June 22, 1941, the Soviet troops on the western border, which were largely in a state of reorganization and formation, there were 170 divisions, 2.9 million people, 18.2% of new tanks and 21.3% of new ones. The same information was published three years later in the multi-volume History of the USSR [61] . It should be noted that on the basis of these data, using previously published figures aircraft [60] . on the number of KV and T-34 tanks (1475) and new aircraft (1540) in the western border districts, a simple arithmetic operation made it possible to establish that these troops had at least 8104 tanks and at least 7230 aircraft. However, such assessments did not have a chance to appear in open Soviet literature. *Table 12 Options for estimating the number of troops of the Western border*

districts [62]

| | I | II | III | IV | V | VI |
|---------------------------|---------|---------|---------|--------|------------|--------|
| Личный состав (тыс. чел.) | 2 901,9 | 2 900 | 2 900 | 2 584 | ок. 3100 | 3000 |
| Дивизии | 170 | 170 | 170 | 170 | 186 | 186 |
| Бригады | 14 | 2 | 2 | 2 | ? | 14 |
| Орудия и минометы | 46 830 | 34 695* | 37 500* | 52 469 | св. 47 200 | 39 400 |
| Танки | 10534 | 1800** | 1475*** | 12 378 | 12 800 | 11 000 |
| Самолеты | 8453 | 1540*** | 1540*** | 9917 | ок. 8900 | 9100 |

* - without 50-mm mortars.

** — heavy and medium tanks.*** — tanks and aircraft of new designs. In

1972, at the Academy of the General Staff, a pamphlet by S.P. Ivanov "The Causes of the Temporary Failures of the Soviet Army in the Summer of 1941 (Historical Reference)" was published in a meager edition of 20 copies. In it, the author tried to combine the already published figures and his own calculations, obtaining the following balance of forces (see table 13). However, such studies, apparently, were considered inappropriate, and in an open work published in 1974, edited by S.P. Ivanov, the figures already published [63] were already cited Table 13 [64] — .

| | Красная Армия | Противник | Соотношение |
|--------------------------|---------------|-----------|-------------|
| Дивизии | 170 | 190 | 1 : 1,1 |
| Личный состав (тыс.) | 2902 | 5500 | 1 : 1,9 |
| Орудия и минометы | 34 695 | 47 260 | 1 : 1,4 |
| Танки и штурмовые орудия | 8105 | 3712 | 2,2 : 1 |
| Самолеты | 7230 | 4950 | 1,5 : 1 |

At the same time, it should be noted that during the preparation of the 4th volume of the "History of the Second World War 1939-1945" the authors attempted to use some of the figures published in the Strategic Outline, but the Main Editorial Board forbade this. In particular, the following remark was made at the corresponding place in the manuscript: *"There is no qualitative description of the military equipment of the parties. The figures for the Armed Forces of the USSR, especially for tanks - 18,600, aircraft - 15,990, are too high. Without a qualitative characteristic, the reader may develop*

a false idea of the strength of the parties on the eve of the war. It is known that in the Soviet Army the vast majority of tanks and aircraft were outdated systems. As a result, in a 12-volume fundamental work on the history of the Second World War, somewhat updated information was published on the total number of the Red Army and the Soviet grouping on the western borders of the USSR (see tables 9 and 12). At the same time, the well-established formula continued to be used that, in addition to the indicated number of tanks and aircraft of new types, the troops had "also a significant number [66] of light tanks and combat aircraft of obsolete designs" In fact, these data became canonical and were widely used in Russian historiography of the second half of the 1970s-1980s [67]. Only in the late 1980s. in Soviet historiography, in the course of the discussion about the problems of the initial period of the Great Patriotic War, new digital data gradually began to appear in the open press, characterizing the state of the Soviet armed forces by the summer of 1941. In 1987, in an article by A. G. Khorkov, the already traditional phrase about "a significant number of obsolete tanks" was for the first time replaced by an indication that there were "more than 20 thousand tanks of obsolete designs, many of which needed capital and average 1989 on the pages of the "Military Historical Repair" magazine" and in [68]. history Table 14 [69]

| | ЛВО | ПрибОВО | ЗапОВО | КОВО | ОдВО |
|------------------------------|-------|---------|--------|--------|-------|
| Личный состав (тыс. чел.) | ? | 348 | 671,9 | 863,7 | 325,7 |
| Дивизии расчетные | 21,5 | 25,5 | 44 | 58 | 22 |
| Орудия и минометы | 7 750 | 5 575 | 10 087 | 13 634 | 5 554 |
| Танки | 1 543 | 1 393 | 2 201 | 4 201 | 769 |
| Самолеты | 1 563 | 1 210 | 1 909 | 2 256 | 1 216 |

The Leningrad Military District published new data on the size of the western border districts (see Table 14), and in the end it became clear that the usual figures are only a part (sometimes very small) of the total data for the Red Army.

In 1992, a new work was published, mainly devoted to the problems of military operations on the Soviet-German front in 1941. Although this work was published under the heading "for official use", it almost immediately became available to a wide range of researchers. It widely used materials from the "Strategic Sketch of the Great Patriotic War" and new information extracted from the Central Archive of the Ministry of Defense (see tables 9 and 12). It also provided new data on the number of troops in the western border military districts (see Table 15). Volume 2 of the Military Encyclopedia, published in 1994, published new figures on the total size of the Soviet armed forces and the grouping of troops on the western borders (see tables 9 and 12). All these figures were somewhat refined in the military-historical essays of the Great Patriotic War (see tables 9 and 12). *Table 15* [70]

| | ЛВО | ПрибОВО | ЗапОВО | КОВО | ОдВО |
|------------------------------|---------|---------|---------|---------|---------|
| Личный состав (тыс. чел.) | 358 446 | 348 247 | 671 900 | 901 000 | 304 061 |
| Дивизии расчетные | 21,5 | 25,5 | 44 | 58 | 22 |
| Орудия и минометы | 7 867 | 7 951 | 13 938 | 16 115 | 6 598 |
| Танки | 1 771 | 1 618 | 2 900 | 4 970 | 1 119 |
| Самолеты (без ВВС ВМФ) | 1 545 | 1 211 | 2 084 | 2 333 | 1 299 |

Subsequently, the relevant information from these publications was used in the multi-volume work "World Wars of the 20th Century" of [71] And the "Great Russian Encyclopedia" (see Table 9). In the

meantime, in the 1990s, the Institute of Military History of the Ministry of Defense of the Russian Federation developed a statistical study of the size of the Soviet armed forces during the Great Patriotic War [72], the most complete at the moment. Given that the relevant — , which is apparently archival documents containing this information are still inaccessible to most researchers, this work is a unique collection of data. Unfortunately, it was published in a scanty circulation and is not available to a wide range of researchers, however, the data presented in this study were used in the preparation of the military

historical essays on the history of the war and were partially published in. on a number of ^[73] True, it should be borne in mind that information reference books of the total strength of the active army as of June 22, 1941 did not take into account almost 48% of the strength of the troops of the Odessa Military District - which, naturally, underestimates the total strength of the Soviet grouping in the western border districts.

However, the literature continues to use other data on the number of troops in the western border military districts. For example, in 2001 a book was published, the authors of which, without any explanation, returned to the figures from the "History of the Second World War" [74] . that it was inferior to the enemy in terms of the number of personnel, but surpassed in the number of military equipment, which was inferior in terms of its qualitative characteristics to equipment [75] to the beginning of the Great Patriotic War. The armed forces of the Soviet Union in the conditions of the outbreak of war in Europe continued to grow and by the summer of 1941 were the largest army in the world. By the beginning of the war, 5,774,211 people served in the Soviet armed forces, of which 4,605,321 were in the ground forces, 475,656 in the Air Force, 353,752 in the Navy, 167,582 in the border and 171,900 in the internal [76] troops of the NKVD . included directorates of 4 fronts, 27 army directorates, directorates of 62 rifle, 4 cavalry, 29 mechanized, 5 airborne corps, 303 divisions (198 rifle, 13 cavalry, 61 tank and 31 motorized), 16 airborne, 1 motorized armored, 5 rifle and 10 anti-tank artillery brigades, 94 corps, 14 cannon, 29 howitzer, 32 howitzer artillery regiments of high power RGK, 12 separate artillery battalions of special power, 45 separate anti-aircraft artillery battalions, 8 separate mortar battalions, 3 air defense corps, 9 air defense brigades, 40 air defense brigade areas, 29 motorcycle regiments, 1 separate tank battalion, 8 divisions of armored trains, as well as other units of support and rear services [77]

[78] 117,581 guns and mortars, 25,786 tanks and 24,488 aircraft. Of these troops, 174 settlement divisions were stationed in the five western border districts, which accounted for 56.1% of the ground forces (see table 16).

Table 16

Grouping of Soviet troops in the western border districts

[79].

| Военные округа | Дивизии | | | | | Бригады | Всего |
|----------------------|---------|-----|----|----|----|---------|-------|
| | сд | гсд | тд | мд | кд | | |
| Ленинградский | 15 | — | 4 | 2 | — | 1 | 21,5 |
| Прибалтийский особый | 19 | — | 4 | 2 | — | 4 | 26* |
| Западный особый | 24 | — | 12 | 6 | 2 | 3 | 45* |
| Киевский особый | 26 | 6 | 16 | 8 | 2 | 3 | 59* |
| Одесский | 12 | 1 | 4 | 2 | 3 | 3 | 23* |
| Итого | 96 | 7 | 40 | 20 | 7 | 14 | 174 |

*

The airborne corps is equated with 0.75 rifle divisions.

The NKVD troops consisted of 14 divisions, 18 brigades and 21 separate regiments for various purposes, of which 7 divisions, 2 brigades and 11 operational regiments of internal troops were located in the western districts, on the basis of which the formation of the 21st, 22nd and 23rd motorized rifle divisions. The border troops consisted of

[80] 18 districts, 94 NKVD border detachments, 8 separate detachments of border courts and other units. By the summer of 1941, there were 8 districts, 49 border detachments, 7 separate detachments of border courts and

border districts [81]. The grouping of Soviet troops in the western and other parts of the consisted of 3,061,160 people (2,691,674 in the Red Army, 215,878 in the Navy and 153,608 in the NKVD troops), 57,041 guns and mortars, 13,924 tanks (of which 11,135 are serviceable) and 8974 aircraft (of which 7593 are serviceable). In addition, the aviation of the Northern, Baltic, Black Sea fleets and the Pinsk military flotilla had 1,769 aircraft (of which 1,506 were operational). Unfortunately, the technical equipment of the NKVD troops is still unknown. In addition, since May 1941, the concentration of 71 divisions from the internal military districts and from the Far East began on the Western theater of operations. Of these troops, by June 22, 16 divisions arrived in the western districts (10

rifle, 4 tank and 2 motorized), in which there were 201,691 people, 2746 guns and 1763 tanks *Table 17 Balance of forces in the* [\[82\]](#).

Western

theater by June 22, 1941

| | Красная Армия | Противник | Соотношение |
|-----------------------------|------------------|-----------|-------------|
| Дивизии | 190 | 166 | 1,1 : 1 |
| Личный состав | 3 262 851 | 4 329 500 | 1 : 1,3 |
| Орудия и минометы | 59 787 | 42 601 | 1,4 : 1 |
| Танки и штурмовые орудия | 15 687 | 4364 | 3,6 : 1 |
| Самолеты | 10 743 | 4795 | 2,2 : 1 |

The grouping of Soviet troops in the Western theater of operations was quite powerful. The general balance of forces by the morning of June 22, 1941 is presented in Table 17, according to which the enemy outnumbered the Red Army only in terms of the number of personnel, because his troops were mobilized.

Although the above data gives a general idea of the strength of the opposing factions, it should be borne in mind that the Wehrmacht completed the strategic concentration and deployment in the theater, while in the Red Army this process was in full swing. As A. V. Shubin figuratively described this situation, "a dense body was moving from West to East at high speed. From the East, a more massive, but more loose block was slowly moving forward, the mass of which [\[83\]](#) was growing, but not at a fast enough pace. Therefore, the correlation of forces at two more levels should be considered. Firstly, this is the balance of forces of the parties in various strategic directions on the scale of the district (front) - army group, and secondly, on individual operational sectors in the border zone on the scale of the army - army. At the same time, in the first case, only the ground forces and the Air Force are taken into account, and for the Soviet side, the border troops, artillery and aviation of the Navy are also taken into account, but without information on the personnel of the fleet and internal troops of the NKVD. In the second case, only ground

forces are taken into account for both sides. Let's start from **the North-Western direction**, where the Army Group "North" and the Baltic Special

military district (North-Western Front) (see table 18). The Wehrmacht had a rather significant superiority in manpower and some in artillery, but was inferior in tanks and aircraft. However, it should be borne in mind that only 8 Soviet divisions were located directly in the 50-km border zone, and another 10 were located 50-100 km from the border. From mid-June, the advance of Soviet troops to the border began, but by June 22 this process could not be completed. The 23rd, 48th, 126th Rifle Divisions advanced to the border, the 11th Rifle Division arrived from the LVO to the Shauliai area, and the 3rd and 12th mechanized corps were withdrawn to the concentration areas according to the cover plan. As a result, in the direction **of the main** attack, Army Group North managed to achieve a more favorable situation for the enemy (see Table 19). In **the Western** balance of power direction, the Army Group Center and the troops of the Western Special Military District (Western Front) with part of the forces of the 11th Army of the PribOVO opposed each other. For the German command, this direction was the main one in Operation Barbarossa, and therefore Army Group Center was the strongest on the entire front. 40% of all German divisions deployed from the Barents to the Black Sea were concentrated here (including 50% of motorized and 52.9% of tank divisions). *Table 18 Balance of forces in the Baltics [84]*

| | ПрибОВО | Группа армий «Север» | Соотношение |
|-------------------|---------|----------------------|-------------|
| Дивизии | 23 | 29 | 1 : 1,3 |
| Личный состав | 348 863 | 792 900 | 1 : 2,3 |
| Орудия и минометы | 7467 | 8348 | 1 : 1,1 |
| Танки | 1348 | 727 | 1,8 : 1 |
| Самолеты | 1814 | 830 | 2,2 : 1 |

Table 19 [85]

| | 8-я армия | 18-я армия и 4-я танковая группа | Соотношение |
|----------------------|-----------|----------------------------------------|-------------|
| Дивизии | 7 | 16 | 1 : 2 |
| Личный состав | 82 010 | 360 060 | 1 : 4,4 |
| Орудия и минометы | 1574 | 4666 | 1 : 2,9 |
| Танки | 730 | 697 | 1 : 1 |

The army group was supported by the largest air fleet of the Luftwaffe. Only 15 Soviet divisions were located in the offensive zone of Army Group Center in the immediate vicinity of the border, and 14 were located 50-100 km from it. The remaining troops began to concentrate on the border in mid-June, and by June 22, troops of the 2nd (100th, 161st rifle divisions), 47th (55th, 121st, 143rd rifle divisions) were on the move.), 44th (64th, 108th rifle divisions) and 21st (17th, 37th, 50th rifle divisions) rifle corps. In addition, troops of the 22nd Army from the UrVO were concentrated on the territory of the district in the Polotsk region, from which 3 rifle divisions arrived by June 22, 1941, and the 21st mechanized corps from the Moscow Military District - with a total number of 72,016 people, 1241 guns and mortar and 692 tanks As a result, the troops of the ZAPOVO contained in the peacetime states were inferior to the enemy only in personnel, but surpassed him in tanks, aircraft, and slightly in artillery (see Table 20). However, unlike the troops of Army Group Center, they did not complete the concentration, which made it possible to smash them piece by piece. Army Group Center was supposed to carry out a double envelopment of the troops of the Western District, located in the Bialystok ledge, with a blow from Suwalki and Brest to Minsk, so the main forces of the army group were deployed on the flanks. From the south (from Brest) the main blow was delivered. On the northern flank (Suwalki) the 3rd Panzer Group of the Wehrmacht was deployed, which was opposed by units of the 11th Army of PribOVO (see Table 21). Troops of the 43rd Army Corps of the 4th German Army and the 2nd Panzer Group were deployed in the zone of the Soviet 4th Army. In this area, the enemy was also able to

significant superiority (see table 22). achieve

[87] Table 20 Balance of forces in Belaru

| | ЗапОВО и части 11-й армии ПриОВО | Группа армий «Центр» | Соотношение |
|----------------------|-------------------------------------------|-------------------------|-------------|
| Дивизии | 54 | 51,5 | 1 : 1 |
| Личный состав | 791 445 | 1 453 200 | 1 : 1,8 |
| Орудия и минометы | 16 151 | 15 161 | 1 : 1 |
| Танки | 4413 | 2255 | 1,9 : 1 |
| Самолеты | 2129 | 1712 | 1,2 : 1 |

Table 21 [88]

| | Части 11-й армии | 3-я танковая группа | Соотношение |
|----------------------|---------------------|------------------------|-------------|
| Дивизии | 3 | 12 | 1 : 4 |
| Личный состав | 34 700 | 265 000 | 1 : 7,6 |
| Орудия и минометы | 646 | 3 060 | 1 : 4,7 |
| Танки | 268 | 1 038 | 1 : 3,9 |

Table 22

| | 4-я армия | Части 4-й армии и 2-я танковая группа | Соотношение |
|----------------------|-----------|------------------------------------------------|-------------|
| Дивизии | 7 | 20,5 | 1 : 2,9 |
| Личный состав | 71 349 | 461 680 | 1 : 6,5 |
| Орудия и минометы | 1 657 | 5 953 | 1 : 6,5 |
| Танки | 520 | 1 025 | 1 : 2 |

In the **South-West direction**, Army Group South, which united German, Romanian, Hungarian and Croatian troops, was opposed by parts of the Kiev Special and Odessa Military Districts (South-Western and Southern Fronts). The Soviet grouping in the South-Western direction was the strongest on the entire front,

[89] since, according to the pre-war operational plan, it — it is she was supposed to deliver the main blow to the enemy. However, even here the Soviet troops did not complete their concentration and deployment. So, in KOVO in the immediate vicinity of the border there were only 16

divisions, and 14 were located 50-100 km from it. From mid-June, the troops of the 31st (193rd, 195th, 200th rifle divisions), 36th (140th, 146th, 228th rifle divisions), 37th (80th, 139th, 141st rifle divisions), 49th (190th, 109th, 198th rifle divisions) and 55th (130th, 169th, 189th rifle divisions) rifle corps. In the OdVO, there were 9 divisions in the 50-km border zone, and 6 were located in the 50-100-km zone. In addition, troops of the 16th and 19th armies arrived in the districts, from which by June 22 concentrated 10 divisions (7 rifle, 2 tank and 1 motorized), with a total strength of 129,675

man, 1505 guns and mortars and 1071 tanks ^[90]. Even without a manned according to wartime states, the Soviet troops outnumbered the enemy grouping (see Table 23), but they did not complete their concentration and deployment.

^[91] Table 23 Balance of forces in Ukraine

| | КОВО и ОдВО | Группа армий «Юг» | Соотношение |
|----------------------|----------------|----------------------|-------------|
| Дивизии | 91,5 | 63,5 | 1,4 : 1 |
| Личный состав | 1 412 136 | 1 556 100 | 1 : 1,1 |
| Орудия и минометы | 26 580 | 16 008 | 1,7 : 1 |
| Танки | 8069 | 1 190 | 6,8 : 1 |
| Самолеты | 4696 | 1 778 | 2,6 : 1 |

The enemy troops had only some superiority in manpower, but were significantly inferior in tanks, aircraft, and somewhat less in artillery. But in the direction **of the main** attack of Army Group South, where the Soviet 5th Army was opposed by units of the 6th German Army and the 1st Panzer Group, the enemy managed to achieve a better balance of forces for himself (see Table 24). The most favorable for the Red Army was the ratio on the front of the Leningrad Military District, where it was opposed by Finnish troops and parts of the German army "Norway" (see table 25). In the Far North, the troops of the Soviet 14th Army were opposed by the German units of the mountain infantry corps "Norway" and the 36th Army Corps (see Table 26), and here the enemy had superiority in manpower and insignificant in artillery. True, it should be borne in mind that, since military operations on the Soviet

the Finnish border began in late June - early July 1941, both sides were building up their forces, and the data given does not reflect the number of troops of the parties by the start of hostilities. *Table*

24 [92] —

| | 5-я армия | 6-я армия и 1-я танковая группа | Соотношение |
|----------------------|-----------|---------------------------------------|-------------|
| Дивизии | 8 | 15 | 1 : 1,9 |
| Личный состав | 93 368 | 339 340 | 1 : 3,6 |
| Орудия и минометы | 2215 | 4035 | 1 : 1,8 |
| Танки | 712 | 865 | 1 : 1,2 |

Table 25 Balance of forces on the border with Finland [93]

| | ЛВО | Финская армия и армия «Норвегия» | Соотношение |
|----------------------|---------|-------------------------------------------|-------------|
| Дивизии | 21,5 | 21,5 | 1 : 1 |
| Личный состав | 426 230 | 418 900 | 1 : 1 |
| Орудия и минометы | 9589 | 3084 | 3,1 : 1 |
| Танки | 1857 | 192 | 9,7 : 1 |
| Самолеты | 2104 | 424 | 5 : 1 |

Table 26 [94]

| | 14-я армия | Противник | Соотношение |
|----------------------|---------------|-----------|-------------|
| Дивизии | 5 | 4 | 1,2 : 1 |
| Личный состав | 52 600 | 78 300 | 1 : 1,5 |
| Орудия и минометы | 1150 | 1037 | 1,1 : 1 |
| Танки | 392 | 106 | 3,7 : 1 |

Thus, the German command, having deployed the bulk of the Wehrmacht on the Eastern Front, was unable to achieve overwhelming superiority not only in the zone of the entire future front, but also in the zones of individual army groups. However, the Red Army was not mobilized and did not complete the process of strategic concentration and deployment. As a result, units of the first echelon of covering troops were significantly inferior

the enemy, whose troops were deployed directly at the border. Such an arrangement of Soviet troops made it possible to smash them piece by piece. On the directions of the main attacks of the army groups, the German command managed to create superiority over the troops of the Red Army, which was close to overwhelming. The most favorable balance of forces developed for the Wehrmacht in the band of Army Group Center, since it was in this direction that the main blow of the entire Eastern campaign was dealt. In other directions, even in the bands of the covering armies, the Soviet superiority in tanks affected. The overall balance of forces allowed the Soviet command to prevent the enemy's superiority even in the directions of his main attacks. But in reality the opposite happened.

The Soviet military-political leadership incorrectly assessed the degree of threat of a German attack. In May 1941, the Red Army began strategic concentration and deployment in the Western theater of operations, which was to be completed by 15 July. However, on June 22, she was taken by surprise and had neither an offensive nor a defensive grouping. Soviet troops were not mobilized, did not have deployed rear structures, and were only completing the creation of command and control bodies in the theater of operations. On the front from the Baltic Sea to the Carpathians, out of 77 divisions of the Red Army covering forces in the first hours of the war, only 38 incompletely mobilized divisions could repulse the enemy, of which only a few managed to take up equipped positions on the border. The rest of the troops were either in places of permanent deployment, or in camps, or on the march. If, however, we take into account that the enemy immediately threw 103 divisions into the offensive, it is clear that an organized entry into the battle and the creation of a solid front of Soviet troops was extremely difficult. By preempting the Soviet troops in strategic deployment, by creating powerful operational groupings of their fully combat-ready forces in the chosen directions of the main attack, the German command created favorable conditions for seizing the strategic initiative and successfully conducting the first offensive operations. Thus, for a

long time, far from complete information was given in Russian historiography on the number of Soviet

armed forces on the eve of the Great Patriotic War. Only in the late 1980s, in the open literature, more objective information appeared on this score, and in the early 1990s, the traditional point of view about the complete numerical superiority of the enemy was finally refuted. However, there has been a tendency, taking advantage of the ambiguity of the issues of the qualitative state of armaments, under this pretext to nullify the Soviet quantitative superiority and thereby reanimate the old version of German [95] superiority in a new form. Therefore, we should turn to the — .

question of the qualitative ratio of the military equipment of the parties. The main striking force of the armies of that time were tank troops. However, each great power had its own classification system for armored vehicles. In the Red Army, tanks were classified according to their combat weight (the mass of a filled tank with full ammunition and crew). Accordingly, there were light (T-27, T-37, T-38, T-40, T-26, BT-2, BT-5, BT-7, BT-7M), medium (T-28, T-34) and heavy (T-35, KV-1, KV-2) tanks. In the mechanized corps, according to the state, there should have been [96] 71.4% of light tanks (of which 43% were BTs). The Wehrmacht had its own classification — .

of tanks, based on the caliber of a tank gun. The T-I and T-II were considered light, the T-III was considered a medium escort tank, and the T-IV was considered a heavy [97] fire support tank. In addition, the Wehrmacht was armed with captured Czech tanks T-35 (t) and T-38 (t), as well as assault and self-propelled guns. Thus, a direct comparison of the techniques of the parties, as is usually the case in historiography, is impossible. V. Suvorov, who drew attention to this fact, suggested using the American classification of armored vehicles for comparison, which was based on the fact that all tanks up to 20 tons were considered light, up to 40 tons - medium, and over 40 tons - heavy. Given the difference in the layout of the tank in the USSR and Germany, he concluded that all German tanks were. In principle, such an approach is a completely possible solution to this difficult issue, but it should be light [98]. borne in mind that the American classification is still closer to the Soviet one than to the German one. . Therefore, in table 27, not only the types of tanks of the Red Army and the Wehrmacht are given, but also in brackets are indicated

weight and armament (number and caliber of guns and machine guns), which, in our opinion, allows a more objective comparison of the armored vehicles of the parties.

In addition, the traditional problem of historiography is the question of the state of the tank fleet of the Red Army. Back in 1961, a statement was published that *"in general, in the Armed Forces of the USSR, as of June 15, 1941, 29 percent of old-type tanks needed major repairs and restoration, and 44 percent on average repair. Serviceable tanks of old [99] samples amounted to no more than 27 percent"*. Despite the fact that reference was made to this information to the materials of the Central Archive of the Ministry of Defense, this document itself has not yet been published and, in fact, it is completely unknown to what extent this statement is true. The only document that allows resolving the issue of the number of armored vehicles in the Red Army is the "Statement of the availability of combat vehicles by districts as of June 1, 1941" This document was drawn up on June 9, 1941 for the head of the Main Armored Directorate of the Red Army, Lieutenant General Ya. It was originally planned that the report would take place on May 20, 1941, then it was postponed to June 18, and then again to June 25, as far as one can judge, it did not take place. Nevertheless, the prepared statement is the most complete systematized set of data on the issue of the state of armored vehicles. First of all, it should be noted that it does not confirm the above statement from the "History of the Great Patriotic War" of 1961. In principle, tanks of the 1st and 2nd categories belonged to serviceable equipment. However, the problem is that in the 2nd ^[100]and, category, both serviceable tanks that were in operation and those requiring current repairs were combined.

It is clear that such a combination of indicators not only does not allow an unequivocal answer to the question of the number of serviceable tanks, but also opens up wide scope for various assumptions and conjectures. For example, trying to determine

the number of combat vehicles, M. Baryatinsky believes that about 30% of the tanks from this category were also malfunctioning. ^[101]

Any other percentage figure, up to 100%, can just as well be postulated - after all, there are no exact data. Information about ongoing repairs in parts is also unknown. In addition, the concepts of "combat-ready" and "serviceable" are not identical, since the second concept is wider than the first. It is clear that during June 1941, the technical condition of armored vehicles changed in the troops of both sides, but any exact data for a later date is not yet known. As a result, table 27 shows in parentheses the number of serviceable tanks of both armies, based on the available materials. For a complete picture of the state of the tank fleet of the Wehrmacht and the Red Army, it should be remembered that in June 1941, 305 tanks were produced in the USSR, and 312 in *Germany*.

| Красная Армия | | Вермахт | |
|------------------------------------------------|-------------------------|-----------------------|-----------------------------------------------------------------|
| Т-35 (50 т, 1 — 76-мм, 2 — 45-мм, 2 — 7,62-мм) | 59 (48) | | |
| КВ (47,5 т, 1 — 76-мм, 5 — 7,62-мм) | 504 (501) | | |
| Т-28 (25,2 т, 1 — 76-мм, 4 — 7,62-мм) | 481 (292) | 613 (572) | Т-IV (20-22,3 т, 1 — 75-мм, 1 — 7,92-мм) |
| Т-34 (26,8 т, 1 — 76-мм, 2 — 7,62-мм) | 892 (891) | 377 (377) | Штурмовое орудие-III (22 т, 1 — 75-мм) |
| БТ-7М (14,65 т, 1 — 45-мм, 1 — 7,62-мм) | 704 (690) | 1 113 (1 090) | Т-III (20,3 т, 1 — 50-мм, 2 — 7,92-мм) |
| БТ-7 (13,8 т, 1 — 45-мм, 2 — 7,62-мм) | 4 563 (3 791) | 316 (235) | Т-III (19,3 т, 1 — 37-мм, 3 — 7,92-мм) |
| БТ-5 (11,5 т, 1 — 45-мм, 1 — 7,62-мм) | 1 688 (1 261) | 198 (187) | Т-35(t) (10,5 т, 1 — 37-мм, 2 — 7,92-мм) |
| БТ-2 (11,3 т, 1 — 37-мм, 1 — 7,62-мм) | 594 (429) | 779 (754) | Т-38(t) (9,7 т, 1 — 37-мм, 2 — 7,92-мм) |
| Т-26 (10,25 т, 1 — 45-мм, 2 — 7,62-мм) | 10 000 (8 425) | 1 204 (1 159) | Т-II (9,5 т, 1 — 20-мм, 1 — 7,92-мм) |
| Т-40 (5,5 т, 1 — 12,7-мм) | 132 (131) | 38 (38) | Орудия на самоходных лафетах (8,5 т, 1 — 150-мм) |
| Т-38 (3,3 т, 1 — 7,62-мм) | 1 129 (733) | 202 (202) | Противотанковые орудия на самоходных лафетах (6,4 т, 1 — 47-мм) |
| Т-37 (3,2 т, 1 — 7,62-мм) | 2 331 (1 483) | 1 122 (877) | Т-I (6 т, 2 — 7,92-мм) |
| Т-27 (2,7 т, 1 — 7,62-мм) | 2 376 (1 060) | 330 (330) | Командирские (6 т) |
| Су-5 (50-65 т, 1 — 76-152-мм) | 28 (16) | | |
| Итого | 25 481 (19 751) — 77,5% | 6 292 (5 821) — 92,5% | Итого |

[103] The loss of the Wehrmacht in Africa until June 22 — .
amounted to 16 tanks

technical [404] . However, a comparison of the tactical and data of obsolete Soviet and German tanks shows that German technology did not have any significant superiority. Some parameters were better for enemy tanks, and some for Soviet tanks. High speed and better maneuverability made it possible to use Soviet "obsolete" tanks to fight the Germans on an equal footing. The course of hostilities in 1941

showed that if the Soviet "obsolete" tanks roughly corresponded to German technology, then the T-34 and especially the KV significantly surpassed all types of Wehrmacht tanks. Moreover, it turned out that the German troops did not have at all the means that would allow them to fight on an equal footing with these types of tanks of the Red Army. However, it should be noted that the Wehrmacht's tank troops had the experience of modern mobile warfare, clear interaction with other branches of the armed forces on the battlefield, which allowed them to gain a certain qualitative superiority over the Soviet tank forces, which did not complete the next reorganization and were often forced to engage in battles without support not only aviation, but also infantry or artillery.

A comparison of the qualitative indicators of the artillery of both sides shows that there can be no question of any significant superiority of the German artillery. Both the Red Army and the Wehrmacht were armed with both modernized models of guns from the era of the First World War, and those created in the late 1920s-1930s. The promising developments of Soviet designers created a significant reserve for the further improvement of the artillery of the Red Army. In addition, the Red Army received the BM-13, the famous Katyusha, into service, eliminating the German monopoly on multiple launch rocket systems in the ground forces. So there is no reason to talk about the superiority of the Germans as artillery. Another thing is that the artillery units of the Wehrmacht had combat experience and well-developed interaction with other branches of the military on the battlefield. Using your

experience of modern warfare, the German gunners at the beginning of the war acted more skillfully and achieved serious success.

An analysis of the qualitative state of the aviation of the parties, undertaken in [105] the latest research, shows that the Soviet Air Force and the Luftwaffe were armed with quite comparable equipment. Some parameters were better for Soviet aircraft, and some for German aircraft. The widespread use of the epithet "obsolete" in Russian historiography in relation to most of the Soviet aircraft is an unjustified myth. The problem of re-equipping the Red Army Air Force with new, far from always "brought to mind" aircraft was a natural process, but the difficulties that appeared along the way were primarily due to the rivalry between different clans of the Soviet People's Commissariat of Aviation Industry and the lag in the field of aircraft engine building. It should also be noted that Soviet aviation was fragmented between armies, fronts and long-range aviation, while the German Air Force had large air formations. In addition, and most importantly, the Luftwaffe had an advantage due to the higher training and morale of the flight personnel, who had experience in large-scale maneuver combat operations against a comparable enemy, due to the proven tactics of combat use and interaction with ground forces, as well as due to the flawless operation of the systems communications and management. Thus, the flight training of Soviet pilots, who in most cases did not have experience in combat with an equivalent enemy, was 30-180 hours, and German - 450 hours. Consequently, all this taken together gave the German Air Force a certain qualitative superiority. According to modern German researchers, an analysis of the state of the Eastern Army of the Wehrmacht by June 22, 1941 shows that *"the divisions with the best equipment were concentrated around the tank groups, while between them and on the flanks, mainly less combat-ready and inactive divisions were used. On the whole, the Eastern Army gave the impression of more of a "patchwork quilt", contrary to the very common judgment in post-war literature that Hitler, thanks to the flexible economy of a lightning war and the robbery of the occupied territories, was able to mobilize a powerful uniformly equipped army against the USSR.*

Table 28 The

number of aircraft in the Air Force of Germany and the USSR [106]

| | Германия | СССР | Соотношение |
|-----------------|----------|--------|-------------|
| Бомбардировщики | 2642 | 6887 | 1 : 2,6 |
| Разведчики | 823 | 1934 | 1 : 2,3 |
| Истребители | 2249 | 9881 | 1 : 4,4 |
| Штурмовики | — | 57 | — |
| Прочие | 1138 | 5729 | 1 : 5 |
| Итого | 6852 | 24 488 | 1 : 3,6 |

This rather unexpected fact in itself is explained not only by the material capabilities of the German military command at that time, but also by the fact that the decision to attack the Soviet Union was not secured by appropriate energetic measures in the field of armaments. Its production was not correlated with the potential of the enemy, since the German leadership proceeded from the fact that they could destroy the military potential of the USSR within a few weeks with the available forces.

[107].

Thus, the Wehrmacht did not have a clear qualitative superiority of technology, as well as its quantitative superiority. However, the training of personnel and the operation of this equipment in the Wehrmacht were higher than in the Red Army. A clear advantage of the Wehrmacht was that the troops concentrated for the attack on the USSR were in a deployed state and in full combat readiness, and the Red Army had just begun the concentration and deployment of troops in the West. The German troops had a fairly high morale and counted on another lightning war. By the summer of 1941, the Wehrmacht was the strongest army in the world, which made it a very serious opponent. And if even before the war Soviet designers managed to create equipment that fully corresponded to the then world level of military-technical developments or even surpassed it, then the Red Army had yet to learn how to beat the enemy with this equipment, and this study was long and difficult. All this once again shows that the attempts of Russian historiography to explain, following Stalin, the defeat of the Soviet troops at the beginning of the war, either by the quantitative or qualitative superiority of German technology, are not justified. The armament of the troops of the parties was

quite comparable in their qualitative parameters, the Wehrmacht as a whole did not have quantitative superiority. Therefore, the question of the level of training of the troops and the rational use of the available forces of the Red Army, the ability to properly dispose of them, comes to the fore. It was precisely this skill that the Soviet military-political leadership lacked, which led to such a tragic start to the war. An incorrect assessment of the international situation on the eve of the German attack and shortcomings in the combat training of the troops became the main reasons that predetermined the defeat of the Red Army at the beginning of the war. The troops, not being deployed and equipped, had to immediately engage in battle with enemy forces superior to them in each individual battle, who acted on the whole more professionally. Unfortunately, the heroism of the soldiers of the Red Army could not compensate for the shortcomings in the combat training of personnel and the lack of an established system of command and control. Thus, the analysis

of Russian historiography shows that over the past decades, ideas about the number of troops of the parties by the beginning of the Great Patriotic War have changed dramatically. Accordingly, the version about the complete numerical superiority of the enemy, which was the usual explanation for the reasons for the "temporary failures" of the Red Army, turned out to be refuted. Those with numerical data show a more complex picture. It turned out that, in principle, the Soviet military-political leadership had the opportunity to concentrate on the theater of operations a grouping of troops that would outnumber the enemy troops. However, the Red Army was to complete its strategic concentration and deployment no earlier than July 15, 1941. As a result, the German command managed to deploy compact, fully combat-ready groupings that were able to create almost overwhelming superiority over the Soviet covering forces in the zones of their main attacks. The sudden attack and the high pace of offensive operations allowed the Wehrmacht to smash the troops of the Red Army in parts, imposing their will on the enemy. Now it is quite obvious that when analyzing the problems of the tragedy of 1941, questions about the ability of the Soviet command to

dispose of the available forces and the combat readiness of the Soviet troops.

At the same time, it should be noted that the problem of the qualitative state of the armed forces (and not just weapons) of the parties requires, first of all, the development of an appropriate methodology for studying this difficult issue. Unfortunately, today there is nothing of the kind, and, as far as one can judge from the literature, this methodological problem itself is still poorly understood.

However, the absence of such a technique leads to the fact that subjective assessments will prevail in studies, and the problem will remain unresolved. The current state of historiography on the issue of the balance of forces of the parties at the beginning of the war shows that it has not yet been finally resolved. So, for the German troops, only the number of divisions and aircraft has been finally clarified. To clarify all other indicators, a thorough study of Wehrmacht documents is required, which has not yet been carried out. An equally thorough study is required with regard to the armed forces of Germany's former allies. As for the Red Army, here it is necessary to introduce into scientific circulation more detailed data on the number of individual formations and formations, which will make it possible to obtain a more accurate picture of the distribution of forces by June 22, 1941.

Mark Solonin. Attack on airfields - myths and facts

Of all the myths about the beginning of the war, created by the Soviet "scientific-historical" propaganda, this one is the most absurd and the most tenacious. *"At dawn on June 22, 1941, German aviation dealt a crushing blow to the airfields of the Soviet Air Force ... 66 airfields were attacked ... On the first day of the war, 800 aircraft were destroyed on the ground ... 1200 aircraft ... More than 2000 aircraft ... Even before noon on June 22 at the airfields were destroyed 1,200 aircraft... Having destroyed the main forces of Soviet aviation in the very first hours of the war, the enemy..."*

Everyone "knows" this. Hundreds of books and tens of thousands of newspaper articles have been written about this (literally in the same or similar words). In upholding this "truth", the party "historians from GlavPUR" and the author of "Icebreaker" turned out to be united. Each student, preparing for the final exam, had to learn these spells by heart.

As befits a real myth, this one lives according to its own laws, not only not needing any documentary confirmation, but also not weakening from the flow of new facts that have become available to everyone since the early 90s. Just one comparison of the sacramental number of "1200 aircraft" with the total number of Soviet aviation groups in the Western **theater** shows that **87% (six out of seven)** of the aircraft from the "surprise attack" did not suffer at all. And the next day after the notorious "1200, of which 800 are on the ground", the Soviet **Air Force** was to outnumber its enemy many times over. The losses of the flight crew - and this is the basis of the foundations of the combat capability of military aviation - were (in percentage terms) completely insignificant. What then led to the catastrophic defeat? The myth of "peacefully sleeping airfields" was painstakingly molded by communist propagandists not by

chance. Secondly, the story about a peacefully sleeping country that became the object of a vile treacherous attack was very useful - this legend

removed many "unnecessary" questions about the real plans and tasks of Comrade Stalin. But even that was not the most important thing. First of all, it was necessary to drive into the minds of the contemporaries of the tragedy, their children and grandchildren, the idea of the objective inevitability, the inevitability of what happened in the summer of 1941. For which, the myth of a certain "super-extra-efficiency" **inherent in** such a tactic as a strike on airfields was the best fit. The treacherous adversary, taking advantage of the naive credulity of Comrade Stalin, was able to use this miraculous trick - and this is where all the troubles began ...

In an effort to present a strike on airfields as a "magic wand" capable of turning the tide of a war in the air in a matter of hours, Soviet propagandist historians contrived to outdo even the most false Dr. Goebbels in lies. So, for the entire campaign of May-June 1940, French aviation irretrievably lost **234 aircraft from attacks on airfields (which** amounted to only 26% of its total losses). In the first six days of the May battles, the British aviation fighter units based in France lost only 4 (four) aircraft on the ground. Of course, such modest numbers did not suit Nazi propaganda, so the German news agencies announced that already on May 11 and 12, 1940, 436 enemy aircraft were destroyed on the ground. One of the many Soviet professors, an academician of the Russian Academy of Sciences, a doctor of military sciences and others, claims that *"on May 10, as a result of attacks on 72 French airfields, several hundred aircraft were destroyed, and on May 11 and 12 repeated massive strikes took place, which disabled another 700 - 750 French aircraft ... "*

Before proceeding to a discussion of a brief theory of the issue, let's look at one specific actual example. Exactly

three days after the fateful morning of June 22, at dawn on June 25, 1941, the aviation of the Northern Front (Leningrad Military District), together with the Air Force of the Baltic and Northern Fleets, dealt a massive blow to the airfields of Finland. Without being distracted for a second by a discussion of the political reasons that led to this event, and its long-term strategic consequences (the author of this article has already written a 700-page book about this, with

which all those interested can familiarize themselves with), we will immediately proceed to an analysis of the purely military aspects of the operation. In the well-known monograph by Major General of Aviation, Doctor of Science, Professor M.N. Kozhevnikov ("Command and Headquarters of the Air Force of the Soviet Army in the Great Patriotic War") we read: "...

Early in the morning of June 25, 236 bombers and 224 fighters delivered the first massive strike on 19 airfields [hereinafter it is emphasized by me - M.S.]. The enemy, not expecting such a strike, was actually taken by surprise and failed to organize countermeasures. As a result, Soviet pilots successfully bombed aircraft stands, fuel and ammunition depots. 41 enemy planes were destroyed at the airfields. Our aviation had no losses. In the next five days, several more effective strikes were delivered on the same airfields and those newly discovered by air reconnaissance. According to aerial photographic control, Soviet pilots, having attacked a total of 39 airfields, made about 1,000 sorties, destroyed and disabled 130 enemy aircraft. The command of the Nazi troops in Finland and Northern Norway was forced to withdraw its aircraft to distant rear airfields ... " Agree, this text largely coincides with the standard description of the first Luftwaffe strike on Soviet airfields. And the quantitative parameters (460 aircraft in the "first wave") are quite comparable with the actions of the most powerful, 2nd air fleet of the Luftwaffe in the skies over Western Belarus. The difference - and the difference is striking - is found only in

the results. Even if we proceed from Kozhevnikov's version, it turns out that, having an overwhelming numerical superiority, the Soviet Air Force spent 1000 sorties in order to destroy 130 enemy aircraft in six days (and not at all in the first six hours!) An average of 7.7 sorties per destroyed enemy aircraft. Already this arithmetic is somehow poorly combined with the legend about "1200, of which 800

- on the ground".

The documents of the Air Force Command of the Northern Front, stored in TsAMO, and the works of modern Finnish historians paint a completely different picture. The only word of truth in

Professor Kozhevnikov's work should recognize the name of the month (June). Everything else - against the background of real facts - looks like an example of "black humor".

The operation lasted exactly two days, and already on the second day (June 26), the bomber units of the Air Force of the Northern Front carried out only a few reconnaissance flights over Finnish territory. The total number of airfields actually based on Finnish aviation, which became the object of a bombing strike, is seven. Only at one airfield (in the city of Turku) was **a single aircraft** of the Finnish Air Force put out of action . By a strange twist of fate, it turned out to be a captured Soviet SB bomber. All other "attacks on airfields" were either completely ineffective, or led to heavy losses of the attackers. In two days of operation, the Air Force of the Northern Front and the Air Force of the Baltic Fleet irretrievably **lost 24 bombers**. There was no relocation of Finnish aviation "to distant rear airfields" at all. Absolutely fantastic figures ("39 airfields", "130 enemy aircraft") cannot be even remotely connected with any real events. Now let's "twist the sharpness" and consider one of the episodes of the operation on June 25 in more detail. At 11:45, a large group (14 or 15, according to various

sources) of SB bombers from the 72nd BAP at a relatively low altitude (1000 m according to Finnish data) approached the Joroinen airfield. The tactically competent actions of the regiment's command, it would seem, were supplemented by an element of luck - the bombers approached the airfield at the very moment when the 2nd squadron of the LLv-26 fighter group, after a long patrol in the air with empty tanks, landed on the airfield. It is this situation (an enemy raid on the airfield while refueling planes returning from patrol) that is often used in Russian historiography to explain the colossal "ground" losses of the Soviet Air Force: the Germans allegedly always arrived "at the wrong time." The 72nd BAP strike group flew in to bomb the Joroinen airfield, also quite "at the wrong time" (from the point of view of the Finns). Yes, but the reaction of the Finnish fighter pilots turned out to be completely timely and clear.

Two fighters on the last liters of gasoline immediately took to the air and attacked the enemy many times outnumbered. As a result, three bombers were shot down directly in the area of the airfield, and the rest, randomly dropping bombs, turned back. A few minutes later, the 3rd squadron LLv-26, called by radio, intercepted the bombers of the 72nd BAP near the village of Kerisalo (12 km southeast of Ioroinen). In the ensuing air battle, the strike group 72 BAP was finally defeated. Judging by the report of the commander of the Finnish squadron, Lieutenant U. Nieminen, by the end of the battle only four SBs had survived, *"one of which was trailing a smoky plume."* In fact, Finnish fighters shot down not 10 (as they stated), but 9 bombers of 72 BAPs. The tenth SB was already shot down over Soviet territory by a Soviet fighter. Among the dead was the commander of the squadron 72 BAP Captain Polyakov. The Finnish fighter group LLv-26 did not lose a single aircraft that day either in the air or on the ground. This example allows us to immediately identify the main thing that determines all the "pluses and minuses"

of a strike on airfields, as one of the elements of a war in the air. War is an armed confrontation **between two sides, two opponents, each of which**, in order to achieve victory, shows perseverance, courage and resourcefulness. "There are two wills in the field," says an old Russian proverb. And if we discuss an attack on airfields in terms and categories of war (that is, taking into account the active opposition of an armed enemy), then this tactic seems to be a very complex, costly and risky undertaking. First of all, because the main component of combat aviation is not aircraft, but pilots. A strike on airfields - even the most

successful for the attacking side - only leads to the destruction of aircraft. And aircraft in aviation are nothing more than consumables. The attacking side loses in the air over the airfield **not only planes, but also pilots**. Moreover, **it loses irrevocably** - a pilot shot down over the airfield will either die (it is almost impossible to use a parachute at low altitude), or will be captured. Both that and another in military language is called "irretrievable loss".

Secondly, it is much more difficult to destroy an aircraft on the ground than in the air. The flying object is vulnerable in flight. A single hole in the engine cooling radiator, a single control rod, interrupted by a fragment of an anti-aircraft shell, a piece of the elevator skin, torn out by a shell rupture of the smallest-caliber air gun, will lead to a fall or, in the most favorable case, to an emergency landing, in which the aircraft, likely to be completely destroyed. If this landing takes place on enemy territory (and during a raid on an enemy airfield, this is likely to happen), then the downed aircraft will go into the category of "irretrievable losses". Again - along with an extremely scarce pilot in the war. An aircraft standing on the ground can be irretrievably destroyed only if it is directly hit by an air bomb. Shrapnel "wounds" from an aerial bomb that exploded to

the side can disable the aircraft, but **only for the duration of the repair**. And this time - depending on the severity of damage, equipment and qualifications of repair services - can be only a few days or even

few hours.

Is it easy to achieve a direct hit with a bomb on an aircraft? According to the Main Directorate of the Red Army Air Force, the crew of the SB bomber, when bombing from a height of 2 km, on average achieved 39% of the dropped bombs in a rectangle of 200 by 200 meters, and the average circular deviation from the aiming point was 140 meters. Simply put, there was no question of any targeted bombing on such a point target as an airplane. Moreover, for targeted bombing, you need to see the target - but with this, in the event of a strike on airfields, there are big problems. The simplest camouflage nets (or even a simple bunch of green branches) in combination

with decoys (simple and cheap aircraft mock-ups made of plywood, boards and cardboard) make the task of visually detecting an aircraft on the ground almost unsolvable. This "almost" could be realized only by descending to extremely low altitudes (50-100 m), which is not at all simple (there were no automatic terrain tracking machines at that time) and very dangerous (at such an altitude, an aircraft can even be shot down by a dense rifle fire). But that's not all - for

In order to exclude the defeat of the aircraft by fragments of the bomb dropped by it, the bombing had to be carried out either from a height of more than 300–500 meters, or using a delayed action fuse. However, the latter method turned out to be even less effective, since a horizontally flying bomb, after being dropped from an extremely low altitude, ricocheted and fell at a completely random point.

A high-explosive aerial bomb weighing 100 kg (the most massive ammunition of bomber aircraft at the beginning of the war) left a funnel with a diameter of 10-15 meters in the ground. A hundred mobilized men from a neighboring village could fill it up in half an hour. Manually. With the use of technology, it was even easier to restore the unpaved runway destroyed by the raid. It should be borne in mind that, for example, the I-16 fighter of the latest modifications (type 28, type 29) had a takeoff speed of 130 km / h, a takeoff run of 210 m, a runway of 380 m. a flat clearing rammed with metal panels could serve as a class. Therefore, attempts to disable the airfield by destroying unpaved runways would be even more costly and extremely inefficient. It is roller or lined with easily removable

important to note that the legend about the super-effectiveness of strikes against airfields was invented by Soviet "historians" retroactively. It was invented when it was necessary to find relatively

decent explanations for the terrible defeat of the Soviet Air Force in the summer of 1941. The very limited possibilities of this tactical technique were well known to military specialists even before June 22, 1941. Already on the basis of studying the experience of the war in Spain,

absolutely correct conclusions were

made: *"... In the first period of the war, both sides conducted intensive operations on airfields in order to gain air supremacy. Subsequently, however, they **almost completely abandoned** (hereinafter, it is emphasized by me - M.S.) from this. Experience has shown that operations on airfields produce very limited results.*

Firstly, because aviation is dispersed at airfields (no more than 12–15 aircraft per airfield) and is well camouflaged;

secondly, airfields are covered by anti-aircraft artillery and machine guns, which forces attacking aircraft to drop bombs from a high altitude with a low probability of hitting;

*thirdly, the damage to the airfield by air bombs is so insignificant that it **almost does not delay the departure of** enemy aircraft; minor damage to the airfield was quickly repaired, and broken communications were restored.*

*Very often, bombers dropped bombs on an empty airfield, as enemy aircraft had time to take to the air in advance. For example, in July 1937, the rebels made 70 **raids** on the airfield in Alcala **in groups of up to 35 aircraft**. As a result of these raids, **2 people were injured, two planes and a truck** were destroyed ... ” (275) Fighting in China and Khalkhin Gol followed*

Spain. New combat experience again showed that strikes against airfields remain an important, but by no means the only, component of the struggle for air supremacy. At a well-known meeting of the highest command staff of the Red Army on December 23-31, 1940, combat experience was summarized as follows: G. P. Kravchenko: “The main thing is

air combat ... I am based on my experience. During the operations at Khalkhin Gol, in order to defeat only one airfield, I had to fly out several times as part of a regiment. I took off with 50-60 aircraft, while at this airfield there were only 17-18 aircraft. S. M. Budyonny: “You said about losses at airfields, but

what is the ratio in losses at airfields and in the air?

G. P. Kravchenko: “I think that the ratio between losses at airfields will be as follows: in particular, at Khalkhin Gol, I had this - I destroyed 1/8 of the part on the ground and 7/8 in the air. G. M.

Stern: “And about the same ratio in other places.”(276) Similar patterns

*emerged during the famous “Battle of Britain”. So, in the first four days of the German air offensive, from August 12 to 15, 1940, Luftwaffe pilots destroyed **47 British** fighters at the airfields - at the cost of losing **122 of their own** aircraft. And this despite the fact that the number of three Luftwaffe air fleets involved in the strike was*

more than at the beginning of Barbarossa, and the only combat mission of this air armada was to suppress the Royal Air Force, while during the invasion of the USSR, the Luftwaffe was forced to devote a significant part of its forces to fire support for ground forces, to destroy roads, crossings and warehouses in the rear of the Red Army, operational intelligence, etc.

The next "round" of combat in the skies over RAF airfields took place from 23 August to 7 September. The British lost then (mainly in the air, not on the ground) 277 fighters, for which the Luftwaffe paid with the loss of 378 aircraft of all types. Taking into account the fact that many English pilots managed to safely use a parachute and land on their own territory, the ratio of pilot losses (in different periods of the Battle of Britain) was 5 to 1 or even 7 to 1. Of course, not in favor of the attacking side.

Returning to the history of the Great Patriotic War, we can also state very eloquent facts. Throughout the war, the losses of Soviet Air Force aircraft at airfields were the smallest category of losses. Specifically, in 1942, 1943, 1944, **204, 239, 210 aircraft were irretrievably lost from enemy attacks on airfields, respectively, which amounted to 2.47%, 2.52%, 2.68%** of the total number of irretrievable losses. In other words, on a huge front, the huge number (at least 10 thousand combat aircraft) of the Soviet military aviation lost less than one aircraft per day from strikes on airfields! With all this, in certain situations, such a tactical technique as a strike on

airfields based on enemy aircraft may turn out to be appropriate (or even the only possible one). The meaning and purpose of strikes against airfields can be formulated as briefly as possible: the irretrievable loss of aircraft and pilots in exchange for **short-term** air superiority. The enemy airfields that have been hit and the air units based on them will quickly restore their combat capability, but in war there are situations when even gaining a couple of hours decides the outcome of the operation. That is why massive raids on enemy airfields were often carried out before the start of major offensive operations.

The temporary decrease in the activity of enemy aviation achieved by this was a significant help to ground forces at the most difficult stage for them to break through the enemy defenses.

There were situations when attacks on airfields became the only possible means of armed struggle. For example, at the beginning of 1941, both British and German bomber aviation switched to the tactics of night raids on enemy cities and military bases. Despite huge efforts (and considerable success) in the creation and development of radar detection equipment in combat units, night fighters turned out to be powerless at that time in the confrontation with bombers invisible in the darkness of the night. Nothing else, except for extremely ineffective and leading to huge losses of raids on enemy bomber base airfields, was then practically impossible to undertake.

Turning now from these general considerations to the real events of June 22, 1941, we can unequivocally state that the decision of the Luftwaffe command to launch a massive strike on Soviet airfields was fully justified. Moreover, the Germans simply had no other chance to seize at least temporary air supremacy with the balance of power that existed on the morning of June 22. The situation in which the Luftwaffe entered the war on the Eastern Front might at first glance seem hopeless. There were very few forces. Small in comparison with the number of enemy aircraft (ie, the Soviet Air Force), small in comparison with any theoretical standards, small in comparison with the experience of previous campaigns.

In May 1940, the Germans managed to concentrate on the Western Front the largest grouping of Luftwaffe forces in the entire period of the Second World War. The offensive of the Wehrmacht in the Netherlands, Belgium and northern France, on a front of 300 km in a straight line (from Arnhem to Saarbrücken), was supported from the air by two air fleets (2nd and 3rd), which included 27 fighter and 40 bomber air groups, 9 groups of Ju-87 dive bombers and 9 groups of multipurpose twin-engine Me-110s. A total of **85 groups, 3641 combat aircraft** (and this is without taking into account the obsolete Arado Ag-68 and Henschel Hs-123 biplanes, without taking into account

reconnaissance, transport, air ambulance). The operational density is **12 combat aircraft per kilometer** of the offensive front. On June 22, 1941, 22 fighter and 29 bomber air groups, 8 groups of Ju-87 dive bombers and 4 groups of multi-purpose twin-engine Me-110 were concentrated on the Eastern Front (including Luftwaffe units stationed in northern Norway and Romania). A total of **63 groups**, which were armed with about **2350 combat aircraft (including faulty ones)**. It is impossible in principle to give an exact figure - aircraft in the Air Force are consumables that arrive, depart, break down, be repaired, and transferred from the balance of one structure to the balance of another. Moreover, all this happens during a war, the very nature of which does not imply the possibility of keeping records similar to that adopted in a modern computerized warehouse ... After the previous many months of fighting in the skies over the Balkans and

the Mediterranean Sea, the technical condition of the Luftwaffe aircraft fleet was depressing. The average percentage of combat-ready aircraft was 77%. Air groups such as II / JG-77, III / JG-27.1 / StG-2, II / KG-53, III / KG-3.1 / ZG-26 arrived on the Eastern Front with less than half of the number of serviceable aircraft. The minimum length of the offensive front, even on the very first day of the war, was 800 km in a straight line (from Klaipeda to Sambir). Within two weeks, the width of the front almost doubled (1,400 km in a straight line from Riga to Odessa). Even without taking into account the losses of the first days of the war, the average operational density of German aviation decreased to **2 aircraft per kilometer** of the offensive front (again, including faulty ones). It only remains to add to this that, according to the pre-war ideas of Soviet military science, a front-line offensive operation required the creation of densities of 15–20 aircraft per kilometer. Even Hitler, although he is considered to be paranoid, understood the disproportion of forces and tasks: *"With such a huge space, the Luftwaffe is not able to process it entirely at the same time; at the beginning of the war, aviation can only dominate parts of a gigantic front ... "*

On average, in terms of the number of fighter pilots (taking into account the Air Forces of the Black Sea and Baltic Fleets), Soviet aviation had a fourfold superiority over the enemy (calculated by the number

fighter aircraft leads to even higher numbers, since in many fighter regiments of the Soviet Air Force there were 1.5–2 times more aircraft than pilots). On the northern and southern flanks of the huge front (i.e., in the Baltic states and Ukraine), the numerical superiority of Soviet fighter aircraft was simply overwhelming: 7 to 1 in the offensive zone of the German Army Group North and 5 to 1 in the offensive zone of Army Group South ".

A comparison with the number of aircraft of other opponents of Germany is also very indicative. In May 1940, the fighter forces of French aviation in the combat zone consisted of 34 squadrons, that is, about 400-450 fighters. Taking into account the fighter aviation of Holland, Belgium and the expeditionary forces of the British Air Force, the strength of the Western Allies grouping increases **to 50 squadrons, 600-650 pilots**. The Soviet Air Force (fighter aviation of five western districts and two navies) had about **260 squadrons, 3550 pilots** (there were much more fighter aircraft). As for technical excellence, the "donkeys" (I-16) of the latest modifications were in no way inferior (and in all respects of horizontal and vertical maneuverability they were superior) to the main fighter of the French Air Force Morane-Saulnier MS-406. Soviet fighters of "new types" (MiG-3, Yak-1) were in no way inferior to the best (for May 1940) French fighter Dewoitine D-520, and if the French Air Force on May 10, 1940 had only 36 Dewoitine ", then the Soviet Air Force of the five western border districts by June 22, 1941 already had 903 MiGs and 103 Yak-1s. No less impressive were the potential capabilities of Soviet bomber aircraft. On June 22, 1941, the Soviet aviation group (including DBA and naval aviation) included

1,300 DB-Z/Zf, 175 °SB, 205 Pe-2, 140 Ar-2, 195 Su-2 and 50 Yak-2/4. The Luftwaffe grouping on the Eastern Front was armed with 520 Ju-88, 300 He-111, 340 Ju-87 and 130 Do-17. The total "bomb salvo" (calculated by the maximum bomb load) of Soviet aviation was 2.5 times greater than that of the enemy (6480 and 2550 tons, respectively). It should also be noted that a much larger number of carrier aircraft

made the Soviet grouping less vulnerable to enemy air defense and theoretically provided a greater likelihood of regular "delivery" of these 6.5 kilotons to enemy targets. In such a situation, the command of the Luftwaffe was forced to resort to such a risky and costly tactic as a massive strike on airfields based on the Soviet Air Force. We emphasize once again that this was **a forced step, fraught with huge losses**, and not at all a "magic wand" successfully found by the Germans and inaccessible to their opponents.

What are the results of this decision in practice? Oddly enough, but a specific and reasoned answer to this question is unknown to this day. More precisely, only one component of the answer is known - the losses of the Luftwaffe turned out to be quite tangible. Having completed about 4,000 sorties on June 22, 1941, German aviation lost irretrievably ("damage from 100 to 60%, leading to the decommissioning of the aircraft" according to the classification adopted by the Luftwaffe) 60 combat aircraft (fighters, bombers, attack aircraft and dive bombers). Another 54 vehicles received minor damage. The total losses thus amounted to **114 aircraft** (1st Air Fleet - 9, 2nd Air Fleet - 47, 4th Air Fleet - 58). All these figures do not include losses associated with takeoff accidents, mid-air collisions and other causes that are clearly not related to enemy opposition. Of course, a glass filled with 100 ml of water can just as easily be called "half empty" or "half full." The irretrievable loss of 60 aircraft in one day was an "unaffordable luxury" for the Germans. The German aviation industry in 1941 continued to work in one shift and produced an average of 10 bombers and 8 fighters per day. With such proportions of production and losses, the entire Luftwaffe grouping on the Eastern Front could "end" in two months. On the other hand, on the first day of the war on the Western Front (May 10, 1940), the Germans irretrievably lost 147 aircraft (and this is not counting the 157 Junkers transport aircraft shot down on May 10 during an airborne landing in Holland). Given the above ratio of the number of Soviet and French fighters,

Luftwaffe losses on the Eastern Front appear implausibly low. Let's not forget about 1039 anti-aircraft batteries (namely, batteries, not anti-aircraft guns), which were in service with the troops of the western border districts of the USSR. And the losses of the 1st Luftwaffe Air Fleet look quite strange, which, having its enemy in the Air Force of the North-Western Front (Baltic Military District), which included 8 fighter regiments (418 fighter pilots), irretrievably lost only 3 (three) combat aircraft. If the losses of the German side are known to within units, then only more or less plausible hypotheses can be built about

the losses of the Soviet Air Force. And in this case, the problem lies not even in the closeness of the archives, but in the absence of the primary documents themselves. The territory of the "Bialystok ledge", in which the 11th, 9th and 10th air divisions were deployed, which suffered the greatest losses on June 22, 1941 (as is commonly believed, 654 aircraft, which is more than half of the sacramental figure "1200 aircraft") was abandoned by the randomly retreating Red Army in the first 3–4 days of the war. During this unprecedented catastrophe, dozens of generals, thousands of tanks and hundreds of thousands of soldiers went missing. No "registry of aircraft" with an exact list of the damage they received during the strike on "peacefully sleeping airfields", indicating the time of the enemy air raid (which would allow it to be correlated with the known and accessible documents of the Luftwaffe), simply never existed.

The commander of the Air Force of the Western Front, Major General I. Kopets, died on June 22 under circumstances unknown to this day (he shot himself or was shot; the author outlined his version of events in the book "June 23: Day M"). Major General A. Tayursky, who temporarily performed his duties, was arrested on July 8, 1941 and shot. The commander of the 11th SAD, Colonel Ganichev, died on June 22 during the shelling of an airfield in the city of Lida by enemy aircraft. The commander of the 9th SAD, Major General S. Chernykh, was arrested in early July and shot. On June 26, 1941, the commander of the Air Force of the Northwestern Front, Major General A. Ionov, was arrested; on June 27, the commander of the Air Force of the Southwestern Front, Lieutenant G

Ptukhin, both were shot. On July 12, the chief of staff of the Air Force of the Southwestern Front, Major General N. Laskin, was arrested, shot ...

In the Central Archive of the Moscow Region, the archives of the 9th SAD are declassified and available to everyone. This is a yellowed cardboard folder with many blue seals and stamps on the cover. Inside the folder is a piece of paper the size of a box of Kazbek cigarettes. The leaflet says that the division was defeated in the first days of the war, and the headquarters documents were not preserved. And that's **all!** In the already mentioned, academically solid monograph by Kozhevnikov, after the figures for the losses of the aviation of the Western Front, there is a reference to the popular book "Aviation and Cosmonautics of the USSR". This is as appropriate as, for example, a reference to the novel by Jules Verne in a monograph on the design of submarines. And this, mind you, despite the fact that in dozens of other, much less significant cases, Kozhevnikov gives, as is customary in a historical study of this magnitude, a reference to archival funds. Marshal G. V. Zimin, in his work "Tactics in Combat Examples" intended for the command staff of the Air Force, repeating the spell (*"the enemy managed to destroy up to 1200 aircraft, including 800 at airfields"*), gives a link ... to the propaganda brochure "Combat Glory to Soviet Aviation", released in 1953! And this again despite the fact that at the end of Zimin's monograph there are several pages of continuous references to the TsAMO funds. Nevertheless, some crumbs of information have survived. In 1962, the Main Staff of the

USSR Air Force prepared the collection "Soviet Aviation in the Great Patriotic War 1941–1945. in numbers". 26 people in ranks from Major General to Lieutenant Colonel are named as authors and compilers of the collection. By the way, Major General M.N. Kozhevnikov is also on this list. The collection was made on a rotaprint in a tiny edition and under the heading "Owls. secret." Declassified in 1992. In 2006, it was posted by Yu. Minkevich and P. Andriyanov on the Internet site (http://ilpilot.narod.ru/vvs_tsifra/index.html). Much earlier, in 1964-1965, the multi-volume series "Collection of Combat Documents of the Great Patriotic War" was declassified. Volume No. 35 contains a report by the third commander of the Air Force of the Western Front, Major General N. Naumenko, signed by him on December 31, 1941

of the year; Volume No. 36 contains a report signed on August 21, 1941 by the new commander of the Air Force of the Southwestern Front, Lieutenant General F. Astakhov, on the combat operations of the front's aviation in the first days and weeks of the war. Neither Astakhov nor Naumenko were participants in the events of the first days of the war; on the one hand, this reduces the reliability of the facts and conclusions contained in the reports, on the other hand, it makes their compilers freer in their assessments

(they are not personally responsible for the terrible debacle). The first thing that catches your eye when working with these documents is that not a single figure agrees with another, which already quite eloquently indicates the absence of any reliable account of the number of aircraft and their losses in the first days of the war. Naumenko's report explicitly states that *"according to the fragmentary data that have survived, it is not possible to judge the full results of the work of aviation for this initial stage of the war, due to the departure of those units that were engaged in combat work in those days, and poor accounting of aviation at that time."* So, for example, Naumenko's report says that *"on the day of June 22, 1941, 538 aircraft were destroyed by enemy aircraft at airfields and in air battles."* The compilers of the collection "Soviet Aviation in the Second World War" cite a document, presumably drawn up in July 1941, signed by Colonel Khudyakov, Chief of Staff of the Air Force of the Western Front, from which it follows that 528 aircraft were lost

on the ground alone, while the total combat losses of the day amounted to 732 aircraft. The monograph by M. N. Kozhevnikov reports that *"9 SAD lost 347, 1 ° SAD - 180, 11 SAD - 127 aircraft ... During the day, the enemy destroyed 387 fighters and 351 bombers of the Air Force of the Western Special Military District."* These so-called "updated data", wandering from book to book, categorically do not fit in with school arithmetic and the composition of the aircraft fleet of the air divisions of the Western Front. Namely: two bomber divisions of the Air Force of the Western Front (13th BAD and 12th BAD) lost on June 22, respectively, 61 and 2 bombers. The three "mixed" (according to the then accepted terminology) divisions of the first echelon of the Front Air Force (11th SAD, 9th SAD, 10th SAD) included only 172 bombers. Even if we assume that they were all destroyed on the

front will be 235, but not 351 bombers. Further, if all 172 bombers that were part of these divisions were actually lost on the first day (a rather rash assumption), then the number of fighters lost should be 482 aircraft, but certainly not 387. If not all bombers 9- 1st, 10th and 11th divisions were destroyed, then the number of fighter losses should arithmetically become even higher ... And yet, in all this chaos, some quite reliable facts can be revealed, which then allow us to formulate fairly well-founded

hypotheses.

The collection "Soviet Aviation in the Second World War" contains data on the number of aircraft fleet of the air forces of the fronts as of June 22, 24, 30 and July 10. We summarize this information in the following

two tables: *Table 1*

| Истребители | 22 июня | 24 июня | 30 июня | 10 июля |
|-------------|---------|------------|---------|---------|
| С-З. фронт | 664 | 391 | 98 | 89 |
| Зап. фронт | 939 | 203 | 125 | 105 |
| Ю-З. фронт | 1190 | 424 | 450 | 248 |
| Юж. фронт | 676 | нет данных | 445 | 537 |
| ВСЕГО: | 3469 | > 1463 | 1118 | 979 |

table 2

| Бомбардировщики | 22 июня | 24 июня | 30 июня | 10 июля |
|-----------------|---------|------------|---------|---------|
| С-З. фронт | 453 | 238 | 56 | 57 |
| Зап. фронт | 535 | 292 | 263 | 214 |
| Ю-З. фронт | 587 | 461 | 369 | 147 |
| Юж. фронт | 309 | нет данных | 161 | 133 |
| ВСЕГО: | 1884 | > 1152 | 849 | 551 |

Note: The total number of aircraft on June 24 is calculated on the assumption that the number of aircraft of the Air Force of the Southern Front (Odessa Military District) as of June 24 was at least equal to the number on June 30.

The first and obvious conclusion from these facts is that no "complete annihilation" of the Soviet Air Force took place on the first day (or even in the first days) of the war. Both on June 24 and 30, the aviation of the four fronts (the former border military districts) was not inferior in numbers to the enemy. Taking into account the fact that behind this grouping there were units of long-range bomber aviation (more than 1000 aircraft), taking into account the fact that the Air Forces of the Black Sea and Baltic Fleets (about 700 fighters and 300 bombers, not counting seaplanes) suffered only single losses in the first days of the war, Soviet aviation until the end of June 1941 had **a significant numerical superiority over the enemy**. By July 10, the number of air forces of the four above-mentioned fronts becomes somewhat less than the number of Luftwaffe aircraft (although approximate equality of forces is still maintained in terms of fighters), but by this moment the aviation of the Northern Front (Leningrad District) entered the war with the Germans, and this is still about 800 fighters (including 163 MiG-3s and 20 Yak-1s) and 350 bombers.

One can discuss the question of how effectively this huge air armada was used, more precisely, for what reasons it was used so badly. But to attribute everything to the consequences of the mythical "destructive strike on airfields at dawn on June 22", to put it mildly, is incorrect. On the other hand, the low (only low in comparison with the potential) effectiveness of the actions of Soviet aviation was quite tangible for the enemy. Not to mention hundreds and thousands of sorties made against mechanized columns of German troops (and in the first days of the war, these air strikes became almost the only means that somewhat reduced the pace of the offensive of the Wehrmacht!), We note only a few specific facts regarding the struggle for air supremacy. Here we are waiting for "amazing" (against the background of the

myths of Soviet historical propaganda familiar, like trampled slippers) discoveries, namely: in all four years of the war on the Eastern Front, the Luftwaffe never lost as many aircraft in one week as it was lost in June 1941. From June 22 to June 30, irretrievable losses "from enemy action and for unknown reasons" amounted to 212 combat aircraft (57 fighters, 115

bombers, 19 dive Ju-87s, 21 multipurpose Me-110s). In two bomber squadrons (KG-51 and KG-55), irretrievable losses amounted to a third of the initial number of aircraft. It is worth noting that the KG-51 was armed with the latest Junkers of the latest modification (Ju-88 A-4), which our "hopelessly outdated" I-16 allegedly could not even catch up with. In the JG-53 fighter squadron equipped with the latest Messers (Bf-109 F-2), the number of combat-ready aircraft decreased by 37 units by the end of June (from 102 to 65). In July 1941, "from the impact

of the enemy and for unknown reasons" the Luftwaffe irrevocably lost 373 aircraft (116 fighters, 152 bombers, 61 Ju-87, 44 Me-110). In total (i.e., taking into account non-combat losses), in five weeks of fighting by July 26, 627 combat aircraft were irretrievably lost, 346 were damaged, for a total of 983 aircraft out of order. The Germans suffered comparable losses only three years later, in the summer of 1944 (in July, 647 aircraft were irretrievably lost for all reasons, in August - 520). The average monthly irretrievable losses of the 44th year amounted to "only" 380 aircraft, that is, one and a half times less than in July of the 41st.

The solution to these "miracles" is extremely clear: the initial strength of the Soviet Air Force was so great that even in an environment of general chaos and loss of control, even a small part of this "great armada" that survived the defeat of the first days was capable of delivering strong blows to the enemy.

Among these strikes were numerous massed strikes against enemy aviation base airfields (already at the end of June 1941, the former airfields of the Soviet Air Force, i.e., airfields, the location of which was known to our pilots with the utmost accuracy, became these "base airfields"). Carefully guarding the myth of some kind of "super-efficiency" inherent in strikes against airfields, Soviet historiography tried as rarely as possible to recall that not only **German, but also Soviet aircraft** had carried out such strikes from the very first hours (!) of the war.

One of the very first raids took place at 4:50 on June 22, when 25 SB bombers from the 9 BAP (Air Force of the North-Western Front) flew out to bomb the enemy airfield near Tilsit (East Prussia). The first raid was not the only one.

The operational report of the headquarters of PribOVO No. 03, signed at 22:00 on June 23, reports that *"the air force during the day fought against enemy aircraft, operated at the airfields of Insterburg, Koenigsberg, Priekule, Memel, Tilsit."* In the report of the commander of the Air Force of the Western Front, Major General Naumenko, we read: *"Units of the Air Force of the Western Front entered the war on the morning of June 22, 1941. This day is characterized by ... the organization of retaliatory strikes against enemy airfields in Sokolu, Sedlec, Luka, Byala Podlyaska ... The first strikes on the enemy's tank columns on 22–23.6.41 were inflicted in the area of Su rolls, Dombrov, Grodno with a simultaneous attack on the enemy's airfield base on the meridian of Augustov, Sedlec ... "*

On June 25, 207 BAPs from the 3rd long-range bomber air corps struck at the airfields based on German aviation in the Vilnius region. Former corps commander Marshal N. Skripko in his memoirs claims that *"as a result of a sudden strike, about 40 German fighters were destroyed."* Enemy documents confirm the fact of the strike: in June 1941, the JG-27 fighter squadron based in that area irretrievably lost 2 (two) aircraft on the ground. Active actions to destroy enemy aircraft at airfields were carried out by the Air Force of the

Southwestern Front. The report of the Commander of the Air Force, Lieutenant-General F. Astakhov, provides the following data: *"For the period 1.7 to 10.8.41, units of the Air Force of the South-Western Front destroyed 172 enemy aircraft at airfields. This information is not complete enough, since the losses inflicted on the enemy during night raids are not fully taken into account ... "* On July 8, by decision of the Headquarters of the Civil Code, the Air Forces of five fronts and parts of the DVA carried out a massive attack on the airfields based on the Luftwaffe (by that time all of them had already were in the occupied territory of the USSR). In Kozhevnikov's monograph we read: *"At dawn on July 8, DB A formations attacked 14 airfields, and the Air Force of the fronts attacked 28 airfields. A total of 429 sorties were flown. Many aircraft were destroyed at enemy airfields, including the Air Force of the Western Front, 54 German aircraft were disabled ... "*

54 planes - that's just in one day. In total, in the period from July 6 to 12, the Air Force of the Western Front allegedly destroyed 202 enemy aircraft on the ground. Moreover, in the report, signed by the chief of staff of the Air Force of the front, Colonel Khudyakov, it was also specifically noted that *"enemy losses from the action of night bombers were not taken into account."*

The enemy himself notes in his documents the irretrievable loss of 12 aircraft on the ground. Moreover, for the whole of July 1941 and on the entire front (and not just in the Army Group Center zone).

The striking difference in numbers has two simple explanations. Firstly, all the reports of the flight crew about enemy aircraft destroyed on the ground are nothing more than a kind of "hunting stories". If a plane shot down in the air leaves a visible plume of smoke, and then a bright flash of an explosion when it falls to the ground, then it is impossible in principle to see holes from bomb fragments in the skin of an aircraft standing at the airfield. Moreover, flying at a strafing flight over an enemy airfield at a speed of 100 m / s (and this is a very modest speed for an aircraft of 360 km / h), the pilot does not even see the explosions of the bombs he dropped ... Secondly, the thrifty Germans stubbornly "patched" the damaged planes, and only cars that fell victim to a direct hit by an air bomb could fall into the category of irretrievable losses. Of course, there were very few of them. The harsh practice of the war in the very first weeks confirmed what Lieutenant General G. Kravchenko spoke about at the December (1940) meeting of the top command staff of the Red Army: *"The main thing is air combat."* It was in the air, and not on the ground, that 361 of the 373 aircraft lost by the Germans in July 1941 were destroyed. A drowning man grabs and the pages of pseudo-historical literature dedicated to the tragic events of June 22, 1941, have been simply littered with "devil's eggs" in recent years. For the

uninitiated in the mysteries of historical myth-making, let us explain: such bad words denote the German 2.5-kg fragmentation bombs SD2. The downpour of these bombs, falling on the "peacefully sleeping" Soviet airfields, predetermined the supposedly unprecedented effectiveness of the first strike. If everything were so simple... The bomber aircraft of the Soviet Air Force were armed with a wide variety of ammunition, the general

over sixty types. There were also small-caliber fragmentation bombs designed to hit area targets - and unlike the Luftwaffe, in which the notorious "eggs" spilled over the target from an ordinary box, loudly referred to as a "bomb cluster", a special rotary-scattering bomb was developed for the Soviet Air Force. an air bomb (RRAB), which dispersed 116 small fragmentation bombs AO-2.5 on the ground. In addition, there was a variant of equipping the RRAB with glass beads with an incendiary mixture of the COP - in this case, the affected area reached one hectare. In addition, there were special "pouring devices", with the help of which the enemy's airfield could be poured abundantly with a mixture of COP or a suspension of white phosphorus. In addition, there were "simple" ABK-500 underwing cassettes that could hold 108 incendiary ZAB-1s, or 67 fragmentation AO-2.5s. And as a result of all efforts - 12 enemy aircraft actually destroyed at airfields for a whole month ...

Now let's look at our "half-empty / half-full glass" from a different angle: how and why did the multiple numerical superiority of Soviet aviation in just one or two weeks reduce to a simple equality of forces? What was the reason for the gigantic losses of red-star aircraft in the first days of the war? Let's start with the fact that, on the basis of the above tables Nos. 1 and 2, we will compile an approximate summary of the loss of Air Force aircraft of four fronts. *Table 3*

| Истребители | 22-24 июня | 24-30 июня | 30 июня — 10 июля | Всего: |
|-------------|---------------|--------------|----------------------|--------|
| С-З. фронт | 273 | 293 | 9 | 575 |
| Зап. фронт | 736 | 78 | 20 | 834 |
| Ю-З. фронт | 766 | +26 | 202 | 942 |
| Юж. фронт | нет данных | 231(22-30.6) | +92 | 139 |
| ВСЕГО: | | | | 2490 |

Table 4

| Бомбардировщики | 22–24 июня | 24–30 июня | 30 июня — 10 июля | Всего: |
|-----------------|------------|---------------|----------------------|--------|
| С-З. фронт | 215 | 182 | +1 | 396 |
| Зап. фронт | 243 | 29 | 49 | 321 |
| Ю-З. фронт | 126 | 92 | 222 | 440 |
| Юж. фронт | нет данных | 148 (22–30.6) | 28 | 176 |
| ВСЕГО: | | | | 1333 |

The figures for the loss of aircraft given in tables Nos. 3 and 4 are significantly underestimated. Not to mention the fact that they do not reflect the losses of attack air regiments (by the beginning of the war, with the rarest exceptions, they were armed not with "silts", but with obsolete I-15bis fighters), this calculation does not take into account the supply of new aircraft, which are continuously flowed from the depths of a vast country to the front. Accordingly, the totals of losses given in the tables must be arithmetically increased by the number of new aircraft received in the specified period. And this number was very significant: for example, in the above-mentioned report of the Chief of Staff of the Air Force of the Western Front, it is said that *"709 aircraft were received for replenishment from June 25 to July 16."* This figure is little known even to specialists, so we will also indicate the exact archival reference: TsAMO, f. 35, op. 3802, d.19, ll. 70–76. In other words, the losses of the Air Force of the Western Front from the "sudden strike on airfields" (based on the generally accepted figures of 550-600 aircraft) were completely replenished after 20 days and even covered by the supply of new equipment ... Despite all the inaccuracy of the above figures, they give

basis for very important conclusions.

First and foremost: the losses of the first three days of the war are so great that they can in no way be reduced to the notorious formula "1200 aircraft, 800 of them on the ground." According to the data presented in the collection "Soviet Aviation in the Second World War", 1286 fighters and 521 bombers were lost on the ground. But not for one first day, but **for the whole of 1941**, for six months and 9 days of the war. The tables testify to the loss of 1775 fighters and 584 bombers on three (out of five) fronts in the first three days!

Exceptionally indicative in this sense are the statistics on the Air Force of the Southwestern Front. The report of the commander of the Air Force of the Front Astakhov says that *"during 22.6.41 and the next two days*

the enemy inflicted significant losses on our airfields, destroying and damaging 237 aircraft at our airfields on June 22, 23 and 24 (emphasized by me - M. S.), *which is 68 percent of the material losses at our airfields as a result of enemy air raids for the entire the period of the war, i.e. from June 22 to August 10, 1941.* " As you can see, we are talking not only about "destroyed", but also about "damaged" machines. Damage is different. Many - especially if the plane received them on the ground and not in the air - can be fixed. All in the same Astakhov's report, one can read that in three weeks (from June 22 to July 13) 990 aircraft were restored, which is 4 times more than the **total** number of damaged and destroyed at the airfields. But even if all 237 aircraft are "written off" as irretrievable losses, this does not explain the loss of **892 aircraft** (**766** fighters and 126 bombers) in three days. Once again, we repeat that tables 3 and 4 give only the most minimal estimate of the loss of aircraft. In many works of modern historians (in particular, those of Khazanov and Isaev), the number of losses of the Air Force of the Southwestern Front is **1452 aircraft** for the first three days of the war. Judging by our tables, the Air Force of the Northwestern

Front lost **488 combat aircraft from 22 to 24 June**. In the well-known collective work of military historians of the

General Staff (in 1992 it was called the General Staff of the "joint armed forces of the CIS") entitled "1941 - lessons and conclusions" it is said that "the Air Force of the front lost 921 aircraft in the first three days of the war. " Moreover, after this message, a link is given to the archive fund of TsAMO. And the combat reports of the first day of the war, drawn up in hot pursuit of the events, testify that only a few dozen aircraft were lost from the "sudden strike on peacefully sleeping airfields"!

In intelligence report No. 03, signed by the chief of staff of the front Klenov at 12:00 on June 22, we read: *"The enemy has not yet brought into action significant air forces, limiting himself to the action of individual groups and single aircraft."* The evening operational summary of the headquarters of the North-Western Front (signed at 22:00 on June 22) reports: *"Losses - 56 aircraft destroyed, 32 - damaged [highlighted by me - M. S.] at airfields."* On the second

On the day of the war, Operational Report No. 03 (22:00 June 23) noted the following losses: *"14 aircraft destroyed, 8 of them in Mytava, 15 damaged. 13 enemy aircraft shot down by aircraft and 6 enemy aircraft by anti-aircraft artillery."* Judging by this document, the fight in the air is almost equal, but only the 1st Air Fleet of the Luftwaffe from June 22 to June 30 loses 41 aircraft irretrievably "from enemy influence and for unknown reasons", and the Air Force of the North-Western Front - in 10 or even 20 times more in the first three days! Another noteworthy

feature of the dynamics of the loss of Air Force aircraft of the North-Western Front is the relative constancy of the level of losses. If the losses of the neighboring Western Front on June 24-30 are an order of magnitude less than the losses of the first three days, then the loss of fighters of the Air Force of the North-Western Front in the period of June 24-30 even exceeds the losses of June 22-24 (the loss of bombers is slightly less). This is more than strange - if you believe the myth of a "sudden" strike on airfields. On June 24, the reindeer herders of Chukotka already knew about the outbreak of war, especially in the Air Force units of the active front, but the "abnormally high" level of losses did not decrease, but even

increased. Quite obvious is the difference, inexplicable at first glance, in the figures for the loss of aircraft on the Southern Front and on the other three fronts. Not only in absolute numbers, but also as a percentage of the initial number of aircraft of the Air Force of the Southern Front, they suffer much smaller losses. From June 22 to June 30, the Air Force of the North-Western Front loses at least 963 aircraft, the Air Force of the Western Front - 1086 aircraft, the Air Force of the South-Western Front - 958 aircraft, and the Air Force of the Southern Front - only 3

Of course, only telegraph poles are even and the same, but how could one common cause for the entire Red Army - the "surprise attack" - lead to such different results? The southern front is the Odessa military district, these are the steppes of the Black Sea region, smooth as a table. Airfields are visible from the air, "at a glance." The possibilities for camouflaging aircraft are minimal - while in the dense forests of Western Belarus and Lithuania, it is possible to throw spruce branches at an aircraft in half an hour. It would seem that it was in the zone of the Southern Front that losses from

the first strike on airfields should have been the largest - but in reality everything happened exactly the opposite.

Noteworthy is the number of airfields that were attacked in the early morning of June 22, 1941. According to the version generally accepted in Soviet historiography, *"66 airfields were subjected to air raids, including 26 airfields of the Western, 23 of Kiev, 11 of the Baltic special military districts and 6 airfields of the Odessa military district."* Strictly speaking, only 868 German aircraft (637 bombers and 231 fighters) took part directly in the first attack on Soviet airfields, which attacked **not 66, but 31 airfields**. But let's not nitpick. It is more important to compare the announced figure (66 airfields) with the real picture of the development of the airfield base of the air force of the western districts. Figures for the number

of airfields rarely match even within one book by one author. This is primarily due to the fact that in the era of aircraft with a takeoff weight of a couple of tons and a landing speed of 130 km / h, the very concept of "operational airfield" was somewhat blurred, because in summer any flat field could be successfully used in this capacity after minimal preparation. The authors of the aforementioned collective monograph "1941 - Lessons and Conclusions" report that "in total, there were **477 airfields** (95 permanent and 382 operational) for 116 air regiments of the Air Force of the border military districts. Attached to these startling confessions is Table No. 5, the footnote to which indicates that these figures - 95 permanent and 382 operational - refer to **January 1, 1941**. And by the beginning of the war, another **278 airfields were in varying degrees of readiness**. In particular, the Air Force of the Western OVO, which suffered the greatest losses from the *"surprise strike on 26 airfields"*, had (according to table No. 5) 29 main, 141 operational and 55 airfields under construction. And this is also the data of January 1, 1941.

Owls. the secret collection of 1962 "Soviet aviation in the Great Patriotic War" gives the following figures: on June 22, 1941, in four western military districts there were (not counting those under construction) **528 airfields (58 in the Baltic, 213 in the Western, 150 in the Kiev and 107 in the Odessa districts)**. In other words, on June 22, 1941, **88% of all airfields** were not subjected to any enemy impact at all. It is also worth recalling that not a single bomb fell

on the morning of June 22, not a single airfield of the Leningrad Military District and the Baltic Fleet Air Force. It is also worth noting that, judging by the documents of the headquarters of the Kyiv military district, already in December 1940, in the territory of the district "to the west of the Dnieper" there were not 150, but 167 airfields. Rumors that some (not to mention all) airfields were at a distance of "cannon shot from the border" are also extremely exaggerated. In the strip 20-30 km from the border, only field operational airfields of fighter regiments were deployed - and this placement mirrored the deployment of fighter and assault groups of the Luftwaffe. Moreover, in 1941-1942, quite a few orders were issued in which the commanders of fighter units were categorically required to bring airfields closer to exactly this (20-30 km) distance from the front line. Even in the Air Forces of the Western Front, which suffered the greatest losses, not a single airfield was - and could not be - subjected to artillery fire on the morning of June 22. The reason for this is extremely simple: the main Wehrmacht field artillery systems did not fire at such a range, and individual batteries and high-powered artillery divisions were used to solve completely different tasks. The base airfields of the 9th SAD (it was this division that lost the largest number of aircraft) were located near the cities of Bialystok and Zabłuduv (80 km from the border), Ross (170 km from the border) and Belsk (40 km from the border). As for the bomber divisions of the Western Front (12th BAD and 13th BAD), they were based in the region of Vitebsk, Bobruisk, Bykhov, i.e., at a distance of 350-400 km from the border. The Germans, by the way, moved their bomber squadrons much closer ... In our opinion, the above facts are more than

enough to send the version of the "sudden annihilating strike on airfields" to the trash. Or, to put it more delicately, to the dustbin of history. On the first day of the war, Luftwaffe pilots reported 322 Soviet aircraft shot down in

the air. Proceeding from a rather modest overestimation of the number of declared victories for the air battles of the Second World War, these reports can be considered evidence of the actual destruction of **100-150** Soviet Air Force aircraft. By the way, Naumenko's report says that Air Force pilots

On the Western Front, 143 German aircraft were shot down on the first day of the war, 124 on the second, and in total, by the end of June, 442 enemy aircraft were allegedly shot down. In fact, the irretrievable losses of the 2nd Air Force of the Luftwaffe amounted to (as noted above) 23 aircraft on the first day and 87 aircraft until the end of June. Why should the reports of German pilots (and even "processed" in the department of Dr. Goebbels) be considered more reliable? The number of Soviet aircraft actually and irretrievably destroyed in the course of German air raids on the airfields of the western districts **cannot be established**. The relevant documents of the air regiments and divisions have been lost (or they did not even have time to be compiled), and the reports of German (as well as Soviet) pilots on this topic are "hunting stories" that do not even have a remote resemblance to reality. All that is possible is, by analogy with all known operations, periods and campaigns of the Second World War, to assume that irretrievable losses on the ground were many times less than losses in the air. The loss of **two thousand aircraft in the first three days of the war** (and slightly smaller losses in the following days)

occurred not in the air, but on the ground. But these losses were caused not by an enemy air strike on airfields, but by **a disorderly retreat of their own troops, during which weapons (including combat aircraft) were abandoned/abandoned/destroyed by the personnel of the aviation units themselves**. Things got to the point that in the documents of the Soviet Air Force there appeared such a wild-sounding term in the military lexicon as "unaccounted for loss."

According to a report compiled by an officer of the headquarters of the Red Army Air Force, Colonel Ivanov, by July 31, 1941, the "unaccounted for" amounted to **5240 aircraft**. In hindsight, all this mass of equipment abandoned during the stampede was recorded as "destroyed by a sudden strike on airfields." With which no one began to argue - neither the German pilots and their commanders (which is understandable), nor the Soviet "historians" (which is even clearer) ...

This hypothesis immediately explains all the features of the dynamics and geography of the loss of Soviet aircraft. Tables Nos. 3 and 4 clearly and adequately reflect the pace and routes of the advance **of the ground forces** of the German army.

The airfields (together with combat aircraft thrown at them) of the three air divisions located in the "Bialystok ledge" (11 SAD, 9 SAD, 1 ° SAD) were abandoned by the retreating troops of the Western Front in the first 2–3 days of the war. This was the reason for the huge "loss" (about a thousand aircraft in three days).

In the future, the daily losses of the Air Force of the Western Front are reduced by an order of magnitude, since these are already losses in air battles, and the fighters of the 2nd Air Fleet of the Luftwaffe did not succeed in shooting down hundreds of Soviet aircraft a day. *"They avoid engaging in battle with our fighters; when they meet an organized rebuff, they leave even with a quantitative superiority on his side. On the Soviet airfields, where fighter units are based, conducting active operations and giving at least once a rebuff [emphasis added by me - M.S.] of the German fascist aviation, the enemy stopped mass raids.* These are lines from the report on the military operations of the Air Force of the Western Front, signed on July 10, 1941 by the commander of the aviation of the front (at that time -

Colonel) N. Naumenko. In the offensive zone of the Army Group "North" large "boilers" of encirclement did not arise, and the German troops, continuously advancing from the borders of East Prussia to Pskov and Ostrov, successively occupied Lithuania, then Latvia, then the Pskov region of Russia. Accordingly, airfields 8 SAD and 57 SAD in Lithuania turned out to be abandoned, then 7 SAD and 6 SAD in Latvia. As a result, the loss of aircraft of the Air Force of the North-Western Front was relatively even, without such a pronounced "peak" in the first two or three days, as it was on the Western Front.

In June 1941, in Moldova, the pace of enemy advance was almost zero (the large-scale offensive of the Romanian and German troops began there only on July 2), there were simply no airfields abandoned during the retreat in the Southern Front in the first days of the war - as a result, aviation losses turned out to be minimal. The fighter regiments of the Air Force of the Southern Front lost only 2-3 aircraft on the first day of the war, and the 69th IAP did not lose a single one. In the future, this regiment under the command of an outstanding Soviet pilot and commander L. L. Shestakov, nowhere

without "relocating", he fought 115 days in the sky over Chisinau and Odessa.

The Murmansk grouping of Soviet aviation (1 SAD and the Air Force of the Northern Fleet) did not "relocate"

anywhere either. As a result, the effectiveness of German air strikes against the airfields based on the Soviet Air Force turned out to be **normal on this sector of the front, that is, very, very low**. And no "devil's eggs" helped. The most fierce battles took place in July 1941 - the Germans desperately rushed to the Murmansk port and the railway connecting the Arctic with the "mainland". The total losses of the Soviet aviation grouping in July amounted to 80 aircraft (from all causes, including accidents), of which **21 aircraft (7% of the original number)** of the grouping) were lost on the ground. Let us give one more,

geographically very far from the "Bialystok ledge", but extremely indicative example. The 13th IAP from the Air Force of the Baltic Fleet was based ... in Finland, on the Hanko Peninsula (after the first Soviet-Finnish war, the naval and air base of the Baltic Fleet was deployed there). After the start of the second Soviet-Finnish war (June 25, 1941), the Hanko airfield was in the zone of action of the Finnish artillery and was constantly fired upon. According to the "logic" in which it is customary for us to describe the defeat of the aviation of the Western Front, the 13th IAP should have been destroyed in a few hours. In fact, the 13th IAP fought until the late autumn of 1941, and was withdrawn from the peninsula only after the general evacuation of Hanko. In March 1942, the regiment was renamed the 4th Guards. For more than a year and a half (until January 1943), the regiment successfully fought on "obsolete, incomparable with German aircraft" I-16 fighters. The author of this article in no

way claims to be the author of the hypothesis that most of the aviation of the western districts was abandoned during random "relocation", and was not at all destroyed by enemy strikes on airfields. Already at the end of the third day of the war, on the evening of June 24, 1941, the Chief of the General Staff of the German Ground Forces, Colonel-General F. Halder, writes in his famous diary: "The enemy aviation, which suffered very heavy losses (approximately 2000 aircraft), completely

relocated to the rear." Halder at that time was not familiar with any documents of the command of the Soviet Air Force and judged what was happening according to the reports of his subordinates. Those, in turn, saw with their own eyes how Soviet aviation disappears from the sky of war. But was this the result of a spontaneous retreat, or did the order to relocate to the rear of the aviation of the first echelon of the Air Force of the western districts really exist?

This is another "mystery of the summer of 41". But if there was such an order, then it is difficult to characterize it otherwise than as "wrecking". Moreover, such an assessment has nothing to do with the endless dispute about the "offensive" and "defensive" armies, about the pre-war plans of the Soviet command and the first wartime directives. Even if a general withdrawal (not a stampede, but a planned, organized withdrawal) in the situation that developed on the evening of June 22, 1941, was the optimal solution, then in order to implement this decision, the fighter units had to perform the function of the rearguard of the retreat. Roads, bridges, crossings, columns of marching people and equipment, command and control posts and communications must be covered from the air during **any** meaningful action - be it an offensive, retreat, transition to positional defense. This is always true, but in June 1941 it was especially important, since it was precisely the German aviation that was rampant in the sky with impunity (which is confirmed by thousands of testimonies) the most important factor in the demoralization of the Red

Army. The redeployment (flight? retreat?) of aviation, and fighter aviation (namely, fighter aviation regiments, were closest to the border) allowed the enemy to bomb parts of the ground forces of the Red Army almost without hindrance, which was one of the reasons for their disorderly panic retreat - what a retreat, in its turn, even more pushed the aviation commanders to make a decision on the immediate "relocation". Thus, a "positive feedback system" was formed at lightning speed, the operation of which for several days led to the fact that most of the aircraft fleet was abandoned at border airfields. Here it is probably worth interrupting the protracted presentation of common truths and look at how this "rebase"

happened in practice. A detailed review of the events of June 22-24 is undoubtedly beyond the scope of this article (a far from complete story about the "relocation" of several air regiments takes 113 pages in the book "On Peacefully Sleeping Airfields"). Nevertheless, let us give one tragic and very revealing example.

S. F. Dolgushin met the beginning of the war as a young pilot in the 122nd Aviation Division (11th SAD, Air Force of the Western Front), received the title Hero of the Soviet Union after the battle for Moscow, during the war years made more than 500 sorties, personally shot down 17 German aircraft and 11 more in the group. From the lieutenants he became a lieutenant general, for many years he was the head of the department of tactics at the VVIA them. NOT. Zhukovsky. Several fragments from his memoirs (recorded by the historian from Grodno V. Bardov) allow us to see the events of the first days of the war from an unexpected side for the reader, reliably prepared by Soviet writers:

"... The I-16 aircraft that we received in the regiment were the 27th and 24th series - with M-62 and M-63 engines. Literally all of them were new machines, and each pilot had: 72 aircraft - 72 pilots in the regiment. Everyone has their own car, so everyone had a large flight time in hours, and the pilots' flight training was strong. I started the war with a flight time of 240 hours [emphasis added hereinafter — M.S.]. ... We flew almost every day, well, Sunday was a day off, and on Saturday we flew ... After all, the I-16, when you master it, it was a good car! He caught up with the Junkers-88 and Heinkel-111, and the Yu-87, of course, shot everything. Fighting, of course, was more difficult with the Messerschmitts, but still, due to maneuverability, you can ...

... On Sunday, June 22, at 2-2:30 a siren rang out: alarm! Well, we gathered on alarm: we grabbed suitcases, helmets, raglans. We ran to the airfield: technicians were trying out motors, and we began to carry cannons, machine guns, and ammunition. And insert the cannon into the wing - it's not wide! And insert a 20 kg cannon there - you will rip off all hands [based 17 km from the border of the 122nd IAP met the beginning of the war in the most unfavorable circumstances, no charters and instructions provided for: the day before, by order of the district Air Force command with fighter weapons were dismantled. A discussion of the possible causes of this incredible event is devoted to several pages in my book "23

June: M day", but within the framework of this article, this topic will be

redundant - M.S.] ... I reported to the squadron commander: "The link is ready!" He called the squadron commanders. We gathered, we sat and suddenly we saw: from the direction of Bialystok there was a flight of planes ("eight" 109s), but it was still far away when we saw them. They flew in and began to storm, but we had already sorted out and dispersed the machines ... The 1st squadron began to take off first, and when they had already taken off, other squadrons began to take off - then the raids had already stopped.

That's it - a "fight" began, the Germans understood ... And then, they saw ... The spies probably told them on the radio that the **regiment had left the airfield** ... While I was taxiing and taking off, they hit me with 16 holes. When I lifted off, retracted the landing gear and took off, the Messer had already been "abandoned" - they didn't deal with me, and the "six" of them were already

over the airfield. And this "six" They didn't pay any attention to me at all, they **were preparing to land on the airfield...**" The

last paragraph looks very chaotic. It is not clear - who, where, why? What exactly did the "Germans understand"? Then everything becomes clearer:

... I walked around in the air, looked and went to the border, and when I walked and looked over the border, I stumbled upon a German communications aircraft from the Fiesler Storch company. I gave one turn, and he stuck into the ground. Then he went to Skidel [the base airfield of the neighboring 127th IAP] - there was no one there, passed over Grodno and returned to the airfield. The squadron commander says: "We are flying away, **the regiment is flying to Cherleny** [an airfield near the town of Mosty on the Neman, about 100 km from the border - M.S.]. You let's refuel and fly there ... "The regiment flew away. I was almost the last to

fly away ... " At this point, we will interrupt Dolgushin's story for a while and try to understand at least something in what we

read. The first thing to note is that the regiment was alerted at 2:30 in the night. Two hours before the appearance of the first enemy planes at the airfield of the 122nd IAP, no one was sleeping. Raised on alarm, the personnel of the regiment managed to "disperse and disperse" the aircraft. Dolgushin (in another place of his story) evaluates the results of the first enemy raid as "very insignificant." This opinion

completely coincides with the surviving documents of the headquarters of the 3rd Army (which was under operational control of the 11th SAD):
"From 04:30 to 07:00, the enemy made 4 raids on the Nowy Dvur airfield by groups of 13-15 aircraft. Losses: 2 aircraft burned down, 6 disabled. 2 people were seriously wounded, 6 - lightly ... "In other words, the losses from the "destructive strike on airfields" amounted to no more than 5-10% of the initial number in the 122nd IAP. However, after a few hours (judging by Dolgushin's story, even before noon on June 22), the commander of the 122nd IAP decides to fly to the rear (albeit still to the close operational rear of the 3rd Army). At the same time, the enemy also does not lose time and "relocates", but not back, but forward: without even getting involved in a battle with Dolgushin's lone fighter, the Germans begin to develop their first airfield on Soviet territory ...

Let us now continue reading the memoirs of S.F. Dolgushina:

*"... I flew to Lida [this is already 100 km east of Grodno - M.S.] somewhere around 11:30-12:00 ... Two "nine" planes also landed in front of me on this airfield, because that they bombed in Cherleny - you can't sit down. And so, when our taxis were taxiing, Me-110s swooped down and, finding ours there taxiing, they began to hit everyone who was taxiing on the airfield runway. And there were many more planes on the taxiway. As a result of this raid, **they did nothing to the machines**, but the division commander Ganichev was wounded in the stomach, and he died after 2 hours, his deputy Colonel Mikhailov was wounded in the leg, and one of the pilots was killed*

*After this attack in Lida, we flew to Cherlena to the regiment, the regiment is there ... But frankly, I will say: who had wives - **went to their wives**, and we, bachelors, flew away. **After the death of Ganichev, no one commanded the division:** the division was left "without a rudder, without sails." The commander is dead, Mikhailov is wounded, and I am not the chief of knew...*

*... We flew in and landed in Cherlena, where I-153 fighters were armed, armed only with ShKAS machine guns, and we have a squadron with I-16 cannons. And in Cherleny **there are no shells for cannons**, because our technicians traveled from Novy Dvor on their own and by that time were still on the way ... We began to work on bridges in Grodno - to cover the bridges and cover the withdrawal of our troops through*

bridges. It was there - above the bridges - that I shot down my first Yu-88 bomber [besides the two guns left without shells, the I-16 also had two machine guns - M.S.] While we were fighting, the bridges in Grodno were intact, and the troops passed. We saw how our troops crossed these bridges - retreated to the right bank of the river. Neman, and until the end of the day the bridges remained intact When it got

dark and the night came, the command came: "Fly to Lida"! And here is the answer for you - to those who say that we had untrained pilots: **the regiment lost 5 or 6 cars, and more than 60 cars in the regiment were still "alive"** ... They came to land, and the runway in Lida was dug up: they built a concrete runway there , in connection with which there was a narrow landing strip, on which there was especially nowhere to sit even during the day. So, the training of the pilots was so strong that during the landing we **did not break a single machine** More than a hundred vehicles accumulated at the airfield: our I-16s from the 122nd IAP and I-153 from the 127th IAP We landed in Lida **without**

technical staff, without everything. The cars are empty - the ammunition is empty, the batteries are dead, there is gasoline, but it is in tanks underground, there is nothing to get. And with canisters and buckets - try to pour 300 kg into the plane with a bucket! And **not a single tanker - everything at the airfield remained** in Novy Dvor and Cherleny. The flight crew did not eat anything all day, each made 5-6 sorties, they were tired and exhausted so that neither arms nor legs could work - we could barely move our legs, and then, what morale - ourselves
understand...

... Early in the morning, on June 23, when it was still dark, we were alerted. We ran to the airfield, and our cars had empty tanks. No flying or anything. And Me-110 destroyed everything that was on earth. Two regiments were defeated and ceased to exist. We were put in cars and **taken to Moscow via Minsk**, for new equipment. They all left Lida together - the pilots of the 122nd and 127th regiments, **got into cars and everyone left** ... And I'm sure that **50% of the "live" planes of both regiments remained there, or even more!** This is how the existence of two regiments ceased ... " The short story by S. F. Dolgushin contains almost all the most significant moments of the so-called "relocation" (i.e., a disorderly, unorganized retreat) and its

inevitable consequences. Within a few hours after such a "relocation", the air regiment comes into a state of complete helplessness: there is no ammunition, no tankers, the batteries are dead, the flight crew " *neither hands nor legs work*", and all the technical services that should refuel, charge, camouflage, repair, hopelessly stuck on refugee-filled retreat roads. The claw is stuck - the whole bird is abyss. After the first phase of "relocation" quickly (in the case of 122 I AP - in less than a day), the second comes - the pilots " *got into cars and everyone left*." But even getting "through Minsk to Moscow" (that is, a thousand kilometers from the collapsing front) in a situation

where enemy aircraft dominates the sky is not possible for everyone and not always. Perhaps not everyone tried to get there. " *Of the 248 flight personnel who were in service on the morning of June 22, a week later, only 170 Red Army soldiers and commanders arrived in Orel to receive new aircraft [a strange phrase: "Red Army soldiers" are not included in the number of "flight technical personnel" - M.S. .] ... Against most of the names in the list of losses, it was indicated "lagged behind when relocating"* ". These words from the archival documents of the 129th IAP (9th SAD), although not directly related to the fate of the defeated 122nd IAP, are quite characteristic of the events of the first days of the war. Further more. More precisely, less. Panic redeployment of fighter regiments of the first echelon of the Air Force of the border districts forced the high command to use the bomber aircraft that had survived on the rear airfields as strike aircraft of the battlefield, and even without any fighter cover. This inevitably led to huge losses and a rapid reduction in bomber aircraft. As a result, already two weeks after the start of the war, the Soviet Air Force lost the huge quantitative superiority over the enemy that they had at the start of hostilities. In conditions of numerical equality with the Soviet Air Force, German aviation received a decisive advantage due to the higher training and morale of the flight personnel, due to the worked out

tactics of combat use and interaction with ground forces, due to the flawless operation of the communication and control system. Only a continuous build-up of forces through the transfer of aviation units of the internal and Far Eastern districts, only the continuous formation of new air regiments allowed the command of the Soviet Air Force to strike back, to provide minimal air cover for ground troops. Ultimately, the "blitzkrieg" in the air was thwarted

for the same reason that the "blitzkrieg" on the ground did not take place: the Germans simply did not have time to "grind" more and more enemy units, did not have time (and did not have the necessary industrial and raw materials) to compensate for the growing losses.

On the other hand, as discipline, order, and controllability were restored in the Soviet Air Force, as the flight and command staff gained combat experience, the actions of Soviet aviation became more and more effective. Probably, by the winter of 41–42, a delicate balance of forces had developed in the air.

Lev Lopukhovsky. In the early days of the war

This is a story about how one of the oldest artillery regiments of the High Command Reserve met the war. In my opinion, its history is typical of other similar artillery regiments that met the blow of the enemy in the first days of the war. It, like a drop of water, reflects the history of other parts of our army, which did not have the glory of resounding victories. But the fighters and commanders in the difficult year of 1941, not sparing their blood and lives, did everything to stop the enemy. They laid the foundations for our Victory in 1945.

We will talk about the 120th howitzer artillery regiment (ran) of high power (b / m) of the RGK, which I already had to write about in connection with the battles near Yartsevo and Vyazma [\[108\]](#). Of course, this regiment was not chosen because it was commanded by my father, Colonel N. I. Lopukhovsky, from April 1940. Trying to find out the circumstances of his death (he was listed as missing in November 1941), I traced the history of the regiment from its creation in October 1929 to its death in the encirclement near Vyazma in October 1941. It turns out that Zhukov and even Stalin himself were informed about the 120th gap of the RGK. But more on that in the appropriate place. In the course of searching for 40 years, I managed to find and establish more or less permanent contact with 60 of my father's fellow soldiers. From 1975 until 1995 I was the

secretary of the regiment's veterans' council. On the example of this regiment, I will try to consider some issues of the readiness of the artillery of the Western Front, which on June 22 turned out to be in the direction of the main attack of the Wehrmacht. It seems to me that historians and researchers have so far undeservedly paid little attention to artillery, unlike aviation and tank troops. My task was somewhat simplified due to the fact that just the other day I managed to declassify some documents relating to the actions of the regiment in the first days of the war. Such documents are not often found in the archives. They fully confirmed the stories of veterans about the first days of the war. I think readers will not judge me for some purely everyday details that characterize the

But why such attention to the artillery of the RGK? The condition and readiness of military artillery (batteries, battalions, divisional and corps regiments) are usually assessed jointly with the combined arms units and formations of which they are a part. Artillery formations of the RGK were the most important means in the hands of the command of the operational-strategic formation - the front, and were intended, as a rule, to quantitatively and qualitatively strengthen military artillery in the main direction. In service with cannon (dud) and howitzer (ran) artillery regiments and individual divisions of the RGK, in addition to the same guns as in military artillery, there were guns of large (BM) and special (OM) power. According to the plan of organizational measures

approved in August 1939, the RGK artillery was to have 17 high-capacity artillery regiments of 36 203-mm howitzers each with 1,374 personnel. The need for tools for them (612 units) was fully covered. At the same time, in accordance with the mobilization plan, it was planned to deploy several similar structures on the basis of some units. To ensure the transition of troops from peacetime states to wartime states, an emergency reserve (NZ) was created. The need for NZ was calculated on the basis of a mobilization deployment scheme, which included formations and units maintained in peacetime and transferred to wartime states, as well as formed in the first month of the war. The use of NZ in peacetime was strictly prohibited, and its size depended on the deployment factor established by the General Staff, that is, the deployment multiplicity. For example, if it was equal to three ("troychatka"), this meant that with the announcement of mobilization, this military unit was deployed in three equivalent parts. For RGK artillery units, the deployment factor was usually set higher (3–4) than for military artillery units (1–2). According to some reports, of the above 17 regiments, 13 were double deployed. To cover wartime needs, it was planned to produce another 571 howitzers. According to other sources, in 1939 there was a plan to turn all 17 artillery regiments into

parts of a triple deployment. Then, when mobilization was announced, the number of such regiments would increase to

51. This could be achieved by reducing the number of guns in the regiment to 24. In the future, the "troika" was apparently abandoned, since to provide such a number of regiments with guns, traction and other property, as well as trained personnel was then beyond their strength. In addition, as experience has shown, the degree of combat readiness of the newly formed regiments to perform fire missions was sharply reduced. For example, deployed in connection with the preparations for the Polish campaign, the 350th artillery regiment of the RGK b / m, immediately before being sent to the BOVO, received 203-mm B-4 howitzers. Acceptance of guns was carried out directly on the railway platforms. Most of the commanding staff of the regiment did not know the new materiel for them and the issues of its use, not to mention the junior commanders and privates. Things were somewhat better in the 360th gap of the RGK.

Since many pages will be devoted to the 120th gap b / m RGK, let's say a few words about the history of its creation. An artillery regiment with this number was formed in Dnepropetrovsk in October 1929 on the basis of divisions of the 3rd Southern Group of Special Purpose Heavy Artillery (TAON), which took part in the battles on the Southern Front, including on the Kakhovka bridgehead and at Perekop. The regiment was stationed in the city of Dnepropetrovsk. The chief of the regiment was the local plant named after K. Liebknecht. In 1932, the personnel participated in the rescue of the civilian population during the great flood of the Dnieper, for which the regiment received gratitude from

The regiment consisted of four battalions (the battalion had three batteries of 2 guns each) and was considered a "triple deployment" regiment. For this purpose, appropriate personnel were prepared in advance. In this regiment, there were almost 1.5 times more junior commanders, including from among the re-enlisted officers, than in the usual linear part. The "variable" rank and file was regularly updated during the calls and during various collections. From among the Red Army soldiers of the 2nd and 3rd years of service, junior reserve commanders were trained in the regimental school. Due to this, it was possible to create a significant reserve of trained commanders and ordinary specialists for various purposes.

The regiment was repeatedly inspected and showed good results in shooting and other types of combat training. In August 1939, two new regiments were deployed on the basis of divisions of the 120th Gap RGK of the Kharkov Military District - the 120th and 375th high-power howitzer regiments. At the same time, the 120th artillery regiment continued to exist in the district until the middle of 1940, the commander of which was Captain Priboychenko (former chief of staff). This regiment was used to train personnel for other artillery units of the b / m RGK. The newly formed 120th Gap b/m was armed with 203-mm howitzers "Midveil-VI" (type VI) of the 1916 model, which were in service with the old Russian army and partially recaptured from the "whites" [109]

The former commander of the division, Captain G.V. Voronkov, the military commissar - political instructor Nagulnov, the chief of staff - captain M.V. Barybin (former assistant chief of staff of the regiment), the battery commander, senior lieutenant F.K. Rabotnov became commander of the 2nd division. Later, the regiment was transferred by rail to the Belarusian Special Military District, where it was attached to the 4th Army of the Belarusian Front. From September 17, the regiment took part in the Polish campaign (it was listed as part of the army from September 17 to 28, 1939). The most combat-ready units of the Polish army

were shackled by battles with the Germans. The Red Army was resisted mainly by individual units and units of the border guard corps. The commander-in-chief of the Polish army, Rydz-Smigly, ordered the troops: *"[...] do not conduct military operations with the Soviets, only if they try to disarm our units. [...] The units to which the Soviets have approached must negotiate with them in order to withdraw the garrisons to Romania or Hungary."* Therefore, the military units of the Polish army, disorganized by the sudden invasion of Soviet troops, with rare exceptions, did not show resistance. Nevertheless, in some cases, serious battles had to be fought in which the regiment did not participate.

On November 2, 1939, the official reunification of Western Belarus with Soviet Belarus, and Western Ukraine with Soviet Ukraine took place. Compared with the life of workers in the Union with

its rationing system and the constant shortage of consumer goods, the situation of the "liberated" residents was much better. This was immediately noted by the fighters and commanders of the Red Army and their families. The land was given to the farm laborers, but collective farms were immediately organized, which the peasants did not like. Many, very many of them did not like the policy pursued by the new government. But the open repressions against the "alien" "liberated" territory caused special alarm and discontent. It was carried out in several stages. First, almost all employees of the Polish state apparatus were arrested and On February ^{And} counter-revolutionary" "elements. isolated. 10, 1940, the mass deportation of the bulk of Polish civil servants and their families began. For the implementation of the osadniks of such a large-scale action, in addition to the organs and operational units of the NKVD, the personnel of the army were also involved. For example, Lieutenant Kondrashin from the 120th Gap with a group of soldiers of his battery in station (the [\[110\]](#), the amount of six people was sent on January 10, 1940 to the Goryn city of Rechitsa). According to the order, at exactly 24 o'clock he opened the secret package, which said that his group was placed at the disposal of the military commandant of the city of Rechitsa. For several days they took the families of the settlers, policemen and officers to the trains at the station, from where they were sent to the north, the Urals and Siberia.

It must be said that by the spring of 1941, anti-Soviet sentiments intensified even more among a certain part of the population of the western regions of Ukraine and Belarus. This subsequently contributed to the successful activity of enemy reconnaissance and sabotage groups in our rear.

Unusually early - at the end of November 1939 - frosts came, snow fell. For a large mass of troops that had accumulated in the occupied territory, there were not enough barracks. It was decided to disperse the troops that had reached the demarcation line. At the same time, they were guided primarily not by operational considerations, but by the availability of possible placements for personnel. The 33rd Rifle Division, which was originally located in the Brest Fortress, was redeployed to the city of Bereza Kartuzskaya. Here was a huge prison for political prisoners, converted by the Poles from the former barracks of the royal

army, known for its extremely brutal regime. It was again adapted for barracks. The 120th Gap was led in this

respect - it was transferred from the Brest region to the city of Pinsk. The regiment was housed in the barracks of the former Polish Lancers regiment, 3 km west of the city. The location of the units in a beautiful military town specially built by the Poles did not require special worries from the command. I remember that everyone admired the regimental bath for personnel. It was a large room in which 50 shower units were mounted on the ceiling in several rows, each of them had a simple lever that allowed you to adjust the water temperature. The acting commander, the former commander of the division, captain

Voronkov, in his business and moral qualities, was not able to command a regiment of four divisions, numbering more than 2.5 thousand people. The atmosphere of an easy walk instead of fighting and the ability to uncontrollably dispose of huge trophies contributed to its decomposition. The regimental commissar Nagulnov drank with the commander and indulged him in everything. Looking at the leadership, other leaders also went into all serious trouble. Many of the most trained commanders and specialists of the regiment were sent to the Karelian Isthmus. The rest, who had previously lived in the Union from pay to pay, under the conditions of "rotten capitalism" and the artificially high exchange rate of the ruble against the Polish zloty, did not miss the opportunity to once again visit the numerous cafes and restaurants of the city. Having drunk, they arranged races for a prize in cabs - who will quickly drive them to the regiment. Drinking often ended in fights and even shooting. The battery commander N. I.

Kondrashin told me how his platoon lieutenant Isachenko in January 1940 opened fire from a revolver in the commander's dormitory with drunken eyes. At the same time, the bullet ricocheted into his thigh. He was almost sued for a crossbow in order to avoid being sent to the front in Finland. It must be said that drunkenness in the ranks of the Red Army during this period was a serious ^[111].

problem for the command. This is evidenced by the repeated orders of the People's Commissar of Defense on this

about. Here, in my opinion, there is a clear connection with the repressions carried out over the years, including in the armed forces. Evasion of official duties and taking decisive measures to restore order became widespread, as commanders were simply afraid of denunciations from "offended" subordinates. Many went into all serious trouble, rightly judging that a drunkard could not be a spy for German, Japanese and other intelligence services. The only one who tried to maintain at least some order in the

regiment was the chief of staff, Captain M.V. Barybin. He prevented the commander and commissar from concealing outrages and reported to the district headquarters on all incidents in the regiment. Apparently, conflicting reports on the command and political lines delayed the decision to change the command of the regiment in order to normalize the situation and strengthen order. In January 1940, Major N. I. Lopukhovsky, commander of the 92nd Gap, 33rd Rifle Division, was appointed commander of the 120th GAP, who at that time was preparing and sending artillery batteries to the Finnish front to make up for the heavy losses of our troops, who were unable to quickly overcome Mannerheim line. At that time we lived in a solid brick house of a Polish siege officer, who was arrested by the NKVD, and his family was deported. My mother, after all the ordeals of life in private apartments and dormitories, was delighted with the house itself, which adjoined a large well-groomed garden (about 6–7 rows of 5 apple trees, not counting the berry tree). There was a large covered utility yard on the site. The family began to prepare for the move. But the order was suddenly canceled, and we got stuck in Bereza for a long time. In fact,

a strange case - an order and then its cancellation. But in the 1930s, this did not happen either: suddenly commanders, unit commanders disappeared somewhere. Divisions and regiments were often commanded by majors and captains. Leapfrog with the change of leaders affected both the districts and the armies, not to mention the General Staff. So, in less than three years, three commanders of the most important border Belarusian (Western) district were replaced. From 1931 to 1937 The district was commanded by the commander of the 1st rank I.P. Uborevich, then - the commander of the 1st rank I.P. Belov, who in September 1939 was replaced by the commander of the 2nd rank

Army General D. G. Pavlov became commander. From July 1938 to December 1940, the 4th Army was commanded by the divisional commander (then Lieutenant General) V. I. Chuikov, from January 1941 - Major General A. A. Korobkov. The chief of staff of the army, Colonel I. M. Viktorov (from July 1938 to August 1940), was replaced by Colonel L. M. Sandalov. In the 10th Army, from September 1939 to March 1941, four commanders were replaced. Since March 1941, it was commanded by Lieutenant General K. D. Golubev. Only the 3rd Army from July 1938 until the start of the war was commanded by commander (lieutenant general) V. I. Kuznetsov.

The situation in the 120th gap was becoming unmanageable. The archives of the TsGASA contain two telegrams from the personnel department of the BVO dated February 10 and 14, 1940 to the People's Commissariat of Defense with a request to expedite the decision on the appointment of Major Lopukhovskiy N.I. was finally accepted.

As early as March 30, 1940, the People's Commissar for Foreign Affairs of the USSR Molotov announced the presence of an unresolved controversial issue of Bessarabia, which was captured by Romania in early 1918. Already on April 10, the Military Council of the BOVO was ordered by April 25: "... C) 120 gap b / m in state No. 08/3, numbering 2697 people with an artillery park in state No. 08/22, numbering 169 people, to be redeployed to OdVO."

The next day, Major N. I. Lopukhovskiy was appointed commander of the 120th gap. Until that time, he, as already withdrawn from the state, was involved in work as part of a mixed (together with the Germans) commission to clarify the new Soviet-German border on the ground. Upon receiving the order, my father immediately took us with him.

The following eloquent episode speaks of the situation prevailing in the regiment. Upon Major Lopukhovskiy's arrival in Pinsk, no one even bothered to get acquainted with his documents and instructions. He was mistaken for the new chief of staff of the regiment. The former commander was delighted: at last they managed to topple Barybin! And the father at first kept silent and, only after looking around, announced that he had been appointed commander of the regiment. Captain Voronkov, dismissed from his post, without really passing the case, tried to take out two cars of the appropriated trophy property from the unit. But by this time, an order had already been issued for its strict accounting and posting. Father

ordered the furniture to be unloaded, but Voronkov pulled out a revolver and yelled that he would shoot anyone who approached the cars. All this happened in front of my eyes at the commander's house, where our family received an apartment. The father raised the guard "in the gun", and the Red Army soldiers gladly disarmed the former unit commander, who was tired of everyone with his drunken

antics. [112] Member of the — together with party since 1921, Major N. I. Lopukhovskiy, the newly appointed military commissar, battalion commissar G. A. Rusakov and chief of staff, Major F. S. Mashkovtsev (M. V. Barybin became assistant regiment commander for the technical part) took up the strengthening of discipline and the formation of a military collective. It was difficult to restore order: not everyone liked the severity of the commander. Not everything worked right away. Moreover, the new command had to solve a very difficult task on the move. On May 3, 1940, the regiment in full strength, together with the materiel

(in order to save rolling stock, almost all tractors were left in place) was loaded into trains and two days later ended up in Kiev [113]. Where and why they were going - no one knew anything. Through Odessa, the regiment was transferred to the area of the city of Voznesensk, and then to the Romanian border (Kolomiya), where it was understaffed according to the wartime staff and completely ready for combat operations.

Stalin, using the moment when the main forces of the Wehrmacht were busy fighting in France, decided to capture Bessarabia, and at the same time Northern Bukovina, which, according to the secret annexes to the Molotov-Ribbentrop Pact, was not included in the sphere of interests of the USSR. June 26 at 22:00 ° Soviet Union presented an ultimatum to Romania on the return of Bessarabia and Northern Bukovina. Romania was forced to agree to all the conditions presented by Stalin. June 28 at 14:00 our troops crossed the border. The 120th Gap marched through Chortkov, Kolomyia to Chernivtsi. After the annexation of Bessarabia and Northern Bukovina, the regiment returned to Belarus, where it again entered the operational subordination of the 4th Army, whose headquarters was located in the city of Kobrin. Here are the conditions for deploying

a regiment of almost 3 thousand people with a large number of military equipment and [114]

vehicles — turned out to be incomparably worse than in Pinsk.

The divisions were scattered over a fairly large area. The headquarters of the regiment, the third division of Captain Morogin and the regimental school were located in the city itself. The first division of captain Zhloba was located in the village of Khorogtsa (9 km northeast of Kossovo). Here we had to build barracks and dugouts. The second division of Captain Rabotnov and the art park are located in Ivatsevichi and partly at the Kossovo-Poleskoye station (12 km from Kossovo). The fourth division of Captain Doronin and the regiment's combat support units were located two kilometers northwest of the city in the former Morachovgtsizna castle, built in 1840. Near it, in five small houses, lived the families of the senior command staff of the regiment. The families of the other commanders lived in the city in private apartments. Such

dispersal of units and disorder complicated the life of the personnel. In addition to combat training, the units had to deal with the organization of everyday life and the creation of an educational and material base - the construction of barracks, parks and warehouses. Moreover, in connection with the difficult lessons of the Finnish war and the change in the leadership of the Red Army (instead of Voroshilov, Timoshenko was appointed People's Commissar of Defense), a restructuring of the entire system of troop training began. Tymoshenko demanded that the troops be taught only what is necessary in the war. Discipline requirements have become much more stringent. A soldier and a sergeant could receive a month of disciplinary battalion for each hour of unauthorized absence, an officer for each day of evasion from duty - a year in prison. Lieutenant Karataev lagged behind the echelon during the regrouping in the Odessa region and caught up with his unit only five days later. For this he was sentenced to five years in prison. In 1942, he was sent to the front, fought well and

ended the war as a major. According to the memoirs of the veterans of the regiment, most of the classes were held in the field, at the training ground and shooting ranges in any weather. There was almost no time for rest. Classes were especially intense at the regimental school, where junior commanders and specialists (scouts, topographers, calculators, radio operators, telephone operators, car drivers and tractor operators) were trained not only for the regiment, but also for other

guns, which before being transferred to the reserve were given the rank of junior

lieutenants. The commanding staff of the regiment was well trained in fire and technical terms: the main positions were occupied by personnel commanders, half of them had graduated from the Odessa School of Heavy and Coastal Artillery. In the commander training classes, the experience of fighting in the Western theater of operations, where Hitler defeated France in two weeks, was studied. At least I saw how my father prepared for classes in the evenings, studying articles in military magazines. I remember the story about the capture of a Belgian fort by a German airborne assault with photographs of its fortifications (now I understand that it was about Fort Eben-Ema-el). We had a good library, including military literature, which is surprising for a person who graduated from only the 4th grade of a parochial school. I liked to leaf through the history of the Civil War with the smeared faces of its heroes, declared "enemies of the people", and from the capital work "Artillery" I had a good idea of what the trench system, the fire shaft and other

subtleties are. In peacetime, the 120th GAP of the RGK was subordinate in organizational and operational terms to the 4th Army, which until the end of 1940 was commanded by Lieutenant General V. I. Chuikov. He was a very tough commander - only such a to the plan commander could have kept him in 1942 [\[115\]](#). According for covering the state border, the regiment was supposed to support the 42nd Infantry Division, which was stationed in Bereza (30 km west of Kossovo). Later, it was transferred to Brest, and in its place the 205th motorized division of the 14th mechanized corps was formed.

On combat alert, the regiment was supposed to go to the Rachka area in the Ruzhany direction (40 km northwest of Kossovo). The command of the regiment was often involved in exercises in the area of the operational mission of the army, and participated in command trips. In particular, in the autumn of 1940, an operational game on the ground took place in the 4th Army (the only one during which defense issues were worked out), when the army formations, under pressure from superior forces of the "enemy", retreated from line to line to the old border. In the end, the "enemy" group that invaded our territory was defeated. Through

half a year in the same direction, the Germans traveled 350-400 km in one week and on June 28 captured Minsk and Bobruisk.

In the performance report for Major Lopukhovskiy (generally positive), V. I. Chuikov personally added: *"... on the whole, he was well prepared, a good combatant, distinguished by his ability to foresee situations, demanding training - development is satisfactory, proud, not enough: there was a booze with a brawl in the regiment and unauthorized absence in the first division of a junior commander with two fighters.*

Nevertheless, on July 16, 1940, Major N. I. Lopukhovskiy was awarded the rank of colonel for the excellent performance of command assignments in difficult conditions, and he was awarded the medal "XX Years of the Red Army".

Contrary to the opinion of Chuikov, the veterans of the regiment unanimously claimed that N. I. Lopukhovskiy was a demanding commander. But, unlike many other commanders and bosses, he did not shout at his subordinates, did not insult them, and never cursed. By all accounts, he was a calm and self-possessed man. The commander of the 11th battery Kondrashin recalls that the officers of the regiment lived together. Holidays, as a rule, were celebrated together, they laid a common table, drank, danced. By the way, my father never drank more than one glass at a feast of any level. The commander often had to restrain his overly hot commissar, who was 10 years younger than him (and it should have seemed the other way around). Thus, the former head of the food service of the regiment, Kudryavitsky, said that Colonel Lopukhovskiy saved his life when the commissar wanted to shoot him on the very first day of the war because he did not ensure the delivery of hot food to the units. Due to the limited volume of

the article, I will dwell on the issues of providing the Red Army with only large-caliber artillery pieces. The number of artillery regiments of high power, armed with 203-mm howitzers, gradually increased. Apparently, the experience of fighting on the Karelian Isthmus, where they had to break into defenses saturated with long-term structures, had an effect. how many of them were parts of double and triple deployment [116]. is unknown). For their armament, according to the report card, 1188 203 mm were required

guns (excluding mobilization stocks). In reality, there were 650 serviceable 203-mm B-4 howitzers of the 1931 model and 36 English howitzers of the VI mark - a total of 686. That is, the security was 58%. Even if we proceed from the calculation of 24 howitzers per regiment, then they were required by the state of 792 pieces, in fact there were 727, but 41 howitzers needed major repairs.

By June 22, 1941, there were already 861 203-mm howitzers in stock, including 825 B-4 model 1931 and 36 mark VI (68.3% of the total requirement)

[1,2]. 152-mm howitzers of various models (1909/30, 1910/30, 1931 and M-10 model 1938) on June 22, 1941, 3817 were available (77.6% of the total need). According to the plan, 4,798 howitzers were required for mobilization deployment, and 120 for mob supplies, in total - 4,918 (79.7% of the need for deployment). There were 2897 152-mm howitzers of ML-20 guns of the 1937 model (68.3% of the total need). 2801 guns were required for the deployment, 96 for the mobile stocks, for a total of 2897 (70% of the requirement for the deployment). According to the then Chief of Staff of the 4th Army, L.M. Sandalov, in the spring of 1941, in the army strip on the district training ground southwest of Baranovichy (near the Obuz-Lesnaya station), there were 480 152-mm guns for the formation of ten artillery regiments of the RGK [3]. He did not specify what kind of tools he was talking about, and did not indicate from what time the formation of these parts began. But he noticed that they also did not have time to create

and put together these regiments before the start of the war. But the notorious V. Rezun, referring to Colonel General L. M. Sandalov, already indicates the time - in May - and even the type of guns supplied - howitzers - ML-20 guns. And that ten rounds of ammunition were prepared for each of these guns (one b / c - 60 shells per gun). Why concentrate so many shells for the formed regiments on a small training ground of the former Polish army, which was considered abnormal? He did not even have a permanent personnel team and was served by the forces of the artillery units arriving on him. Where to store shells (shots), what to transport? After all, for a start, a regiment being formed, in the presence of transport, is enough 1-2 b / c (carried st

Rezun needed all this in order to later describe how the valiant German troops captured 480 brand new ML-20 howitzers near Baranovichi, just from the factory. For information: in the first half of 1941, only 497 of them were made. And what, 480 of them were sent to Baranovichi? By the way, there were no regiments with 48 full-time ML-20s, but there were artillery regiments of the RGK, which were armed with 48 152-mm M-10 howitzers (staff No. 8/1). There were also 3-divisional corps regiments, which had 36 ML-20s each. Perhaps the guns were intended to equip not only the artillery regiments of the RGC, but also the corps regiments, including the emerging 13th Army, which had already been assigned a

cover area. On November 1, 1940, artillery regiments (divisional, corps and RGK) were armed with 599 152-mm howitzers and guns in the district. As of January 1, 1941, there were 774 howitzers and howitzer-guns alone, including 266 ML-20 howitzer- [guns](#) ML-20 guns (that is, 204 pieces were added within five months). Indeed, by June 22, 1941, the district included 19 corps and army regiments and 6 howitzer regiments of the RGK (not counting individual divisions). In June, another 24 ML-20 howitzer guns and 6 howitzers of the 1938 model were received [4].

But the number of forces and equipment is an important, but not the only component that determines the degree of readiness of troops for combat operations and the effectiveness of their use. It is not only a matter of the number of guns, tanks and aircraft or regiments, divisions and corps available in the army. In the Red Army, for example, by the beginning of the war there were over 23,000 tanks and 29 mechanized corps. But the decision to create such a large number of mechanized corps was provided with armored vehicles by only 52% (and in aviation with the latest types of aircraft - by 15–20%). Much has been written and said about the degree of readiness of armored and mechanized troops. I will not dwell on this and will only remind readers of an excerpt from the report of the head of the GABTU, Lieutenant General Ya. N. Fedorenko. On May 14, 1941, he drew the attention of the Commissar of Defense to the fact that due to the incomplete provision of mechanized corps with tanks by state, they *“are not fully combat-ready. To increase their combat capability in the future*

before providing them with tanks, I consider it necessary to equip the tank regiments of the mechanized corps with 76-mm and 45-mm guns and machine guns so that, if necessary, they could fight like anti-tank regiments and divisions. For this event,

the ZAPOVO was allocated: for the 13th mechanized corps 48 76-mm guns, 54 45-mm anti-tank guns and 160 light machine guns, 48 ZIS vehicles and 74 GAS. The 17th mechanized corps was to receive 96 76-mm guns, 72 45-mm anti-tank guns and 320 light machine guns, 96 ZIS vehicles and 112 GAZ, and the 20th mechanized corps - 120 76-mm guns, 90 45-mm anti-tank guns and 400 light machine guns, 120 ZIS vehicles and 140 GAS. On May 16, the Chief of the General Staff ordered that these plans be implemented in the district by July 1, 1941. As a result, by June 22, the ZapOVO mechanized corps had tanks (mostly training): the 11th - 414, the 13th - 282, the 14th - 518, the 17th - 63, the 20th - 94. Only the 6th the mechanized corps was staffed according to the state and had 1131 tanks [5]. This is the state our mechanized corps were in a month before the start of the war. It was not for nothing that Vasilevsky said that we needed another year or two of peaceful development in order to solve the tasks of the military plan.

As of June 22, 1941, the ZapOVO had (in parentheses - taking into account the Pinsk military flotilla): 6043 (6515) ground artillery guns, 1052 (1139) anti-aircraft guns, 6106 (6610) mortars, in total - 13,201 (14,264) [14]. In the district there were 3 cannon and 6 howitzer regiments of the RGK, including four gaps of the b / m, of which one (120th) was operationally subordinate to the 4th Army, and three (5th, 318th and 612th j) - at the disposal of the front. On June 1, the regiments of high power were armed

with 101 203-mm howitzers. According to the state (approved on February 19, 1941), the 120th artillery regiment of the b / m RGK consisted of four divisions. In total, the regiment had 24 howitzers, 112 tractors, 242 cars, 12 motorcycles and 2304 personnel (174 of them officers). It was part of a double deployment. In April 1941, the regiment switched to staff 08/44 [118]. According to the new staff, the regiment, as before, had four divisions of three-battery composition (in the battery - 2 platoons, each with one howitzer). Since the 4th division became cadre, the number of personnel of the regiment decreased slightly and

amounted to 2171 people, including: command personnel - 166, junior command personnel - 419, privates - 1586.

The regiment had a significant amount of radio communication equipment, more than 150 tractors and about 300 vehicles, of which at least a hundred were supernumerary (including several dozen half-track ZIS-ZZ all-terrain vehicles that arrived from the Finnish front). All autotractor equipment, with a few exceptions, was mothballed. The tractors, tractor trailers and vehicles available in the regiment were intended for both the regiment of the first stage and the regiment of the second stage. But their number did not meet the needs of the regiment of the second stage. In connection with the dismissal of conscripts to the reserve and the dispatch of specialists to other units, there were not enough drivers of vehicles and tractor operators. It should be noted that the lack of means of fur-traction was characteristic of most artillery units and formations. It was planned to eliminate the shortfall due to the supply of automotive and tractor equipment from the national economy when mobilization was announced. Sometimes extraordinary measures had to be taken.

Thus, three anti-tank brigades were formed as part of the ZapOVO - one each (7th and 6th) in the 3rd and 10th armies and one (8th) in reserve. There was not a single one in the 4th Army, which covered the most important Brest direction. There were no tractors in the brigades. At the same time, horses were not assigned to them. Only at the insistent request of the district command in the most recent time was it allowed to take tractors for them from some rifle divisions. The artillery of the latter had to be transferred to horse-drawn traction.

Only in June, the anti-tank brigades were mainly equipped with mechanized weapons [4]. Literally on the

eve of the war, new materiel began to arrive in the 120th gap. By June 21, the regiment received 12 B-4 howitzers from the 318th GAP of the RGK. Another 6 such guns arrived at the Kossovo-Poleskoye station, which by the beginning of the war had not been unloaded from the platforms. Of course, the B-4 203-mm howitzer of the 1931 model was superior in all respects to the obsolete English one. The B-4 feature was a caterpillar carriage, which provided it with a fairly high maneuverability and firing from the ground without the use of special platforms.

The howitzer was transported by two tractors. To do this, it was disassembled into two parts: the barrel, removed from the carriage, was placed on a special wagon, the caterpillar carriage, connected to the front, made up the carriage wagon. For short distances, the howitzer was allowed to be transported unassembled. For transportation, caterpillar tractors of the Kommunar type were used, the highest permissible speed on the highway was 15 km / h. To the howitzer, shots of separate cap loading with ten variable charges were developed.

The resulting howitzers were intended to arm the regiment of the second stage. For him, the middle command staff was selected (in this case, the best platoon commanders were appointed battery commanders, and junior lieutenants from the reserve were to arrive in their place), as well as junior command staff - gunners, gunners, commanders of communications departments (from the regimental school). There were many to choose from: back in February 1940, many young commanders who graduated from the Odessa School of Heavy and Coastal Artillery arrived in the regiment. On May 14, 1941, the People's Commissar of Defense ordered the early release of sophomores from schools and their immediate dispatch to units. A week before the start of hostilities, several more young commanders arrived in the regiment. One of them came to the unit on June 21st. At the same time, several middle and junior commanders and specialists were sent from

the regiment to other units in April and May, including many drivers. It should be noted that the border districts were in a fever of endless reorganizations. The existing organizational structure of the troops of the Red Army was ruthlessly broken, not in accordance with the real terms for the implementation of the planned activities, with the situation on the western border and the capabilities of industry. Not finishing one thing, they immediately started another. The continuous reorganization had the most negative effect on the readiness of our troops for combat.

Oddly enough, but in this difficult pre-storm time, the only plan that was strictly observed was the vacation plan. So the commander of the 120th gap was on another vacation. The new chief of staff of the regiment, Major F.S. Mashkovtsev (former head of the regimental school of the 318th GAP RGC) was called to the training camp at the academy

named after Dzerzhinsky. Other regiment commanders were also on vacation, including the commander of the second division; they were able to join the regiment only on the Berezina (and 4 vacation commanders did

not appear in the regiment). A similar situation was in other units and formations. For example, the 318th Gap of the b/m RGK has been in the camps since May 31st. From there, 19 middle and junior commanders were seconded from there to receive assigned military personnel for the period from June 10 to 14. On June 12, to undergo 1.5 monthly reserve training, the regiment arrived: middle command staff - 20 people, junior - 52, privates - 412. On July 1-7, competitions in artillery training were scheduled, held by the chief of artillery of the district. Nevertheless, the regimental chief of staff went on vacation from June 16 to July 24.

During June 17 and 18, the regiment was engaged in loading equipment at the Belitsa station. Apparently, these were B-4 guns intended for the 120th gap. Having dispatched the guns, the regiment

commander himself departed on vacation on June 20. Most likely, the situation with vacations was approximately the same in other units, formations and armies of the district. From Monday, June 23, the training camp for officers intended for the newly formed artillery regiments of the RGK was planned in the district. But at this time, the chief of artillery of the 4th Army, Major General D.P. Dmitriev, was also on vacation. In essence, all the artillery of the RGK district was beheaded.

Veterans of the 120th GAP recalled that shortly before the regiment was sent to the camp at the NZ warehouse in Kossovo, where the first received B-4 howitzers were stored, familiarization exercises were held with the commanders of divisions and batteries. At the same time, it was forbidden to record anything. How unlike the situation when they were going to oppose a comparatively weak Poland! And this is at a time when the Red Army, according to V. Rezun, was preparing to deliver a preemptive strike in two weeks!

This issue requires a special study. Here I note that Rezun justified the date he named - July 6, referring to the work "The Initial Period of the War" edited by General of the Army S.P. Ivanov. He quotes a phrase taken out of context: *"the German fascist command literally in the last*

two weeks [highlighted by me - L. L.] managed to forestall our troops (p. 212)." And he quotes, omitting the end of the phrase: *"in completing the deployment and thereby creating favorable conditions for seizing the strategic initiative at the beginning of the war."* For the section of labor dealt with the concentration and operational deployment of troops for defense purposes to cover the state border. And nothing was said about going on the offensive. After 16 pages, Rezun rewrites the same phrase in his own way (already without a link to the page), giving it a completely different meaning : *"[...] the German troops managed to preempt us by literally two weeks"* [emphasis mine. - L. L.].

At the same time, Rezun quite rightly writes that the preparation and readiness of the newly formed units is a complex matter that requires a lot of time. It is not enough to equip subunits and combat crews with commanders and rank and file. It is necessary to provide the infrastructure of the part and connection. In the artillery regiment of the RGK, in addition to divisions and batteries, it is required to create and equip with specialists headquarters and park batteries, an artillery park and rear units, to supply them with traction and vehicles. Only then the regiment is able to complete the combat

mission. If, as Rezun claims, the preemptive strike was planned for July 6, 1941, would our command really have missed the opportunity to strengthen the grouping of the left wing of the Western Front in advance with a dozen regiments of large-caliber artillery? Is it possible to count on the success of an offensive by forces of only infantry and tanks without the support of reinforcement artillery? The armies of the Western Front, in their composition, were not ready for an offensive with decisive goals. As subsequent events showed, they were not ready to repel the invasion either.

A small digression. In order to generalize the experience of concentrating and deploying troops of the western border military districts according to the plan for covering the state border in 1941, the Military Scientific Directorate of the General Staff (headed by Colonel General A.P. Pokrovsky) asked the direct participants in these events 5 questions: "1 . *Was the plan*

for the defense of the state border brought to the attention of the troops in the part that concerns them; when and what was done by the commanders and staffs to ensure the implementation of this plan?

2. From what time and on the basis of what order did the covering troops begin to reach the state border and how many troops of them were deployed before the start of hostilities? 3. When an order was

received to put the troops on alert in connection with the expected attack by Nazi Germany on the morning of June 22; what and when instructions were given to carry out this order, and what was done by the troops?

4. Why was most of the artillery in training centers? 5. To what extent were the

headquarters prepared for command and control, and to what extent did this affect the conduct of operations in the first days of the war? These interesting

questions were asked during Stalin's lifetime - in the late 40s - early 50s, when the reasons for the failures of our troops in the initial period of the war were determined by the leader himself: a sudden, treacherous attack, the superiority of the Germans in the number of tanks and aircraft, etc. d.

Even more interesting are the responses of front-line soldiers who survived the difficult days of the sudden start of the war. How long the collection of materials lasted is unclear. In 1989, the Military Historical Journal began publishing their responses under a meaningful heading [6]. Separate articles were devoted to the answers to the first and second questions. At the end of their publication, the editor of the journal on the problems of the history of strategy and operational art, Colonel V.P. Krikunov summed up. In particular, he stressed that many commanders and formation commanders took (or tried to take) measures to prepare subordinate troops to repel an impending attack at their own peril and risk. However, all of them were under orders from above not to "provoke" war.

The article with answers to the second question in the fifth issue of the "Military Historical Journal" in the same year ended with a remark that a continuation should be made. But it didn't follow. "Upstairs" decided that the answers of the front-line soldiers, in turn, could cause unpleasant questions, the answers to which could cause unwanted associations, and the magazine's initiative was nipped in the bud. It's a pity. Apparently, the editor of the magazine, who studied the responses of the front-line soldiers, had something to say ...

An analysis of the responses of front-line soldiers who occupied not the last posts in their formations and associations, despite their subjectivity, in conjunction with recently declassified archival documents, would make it possible to better understand the reasons for the defeat of our troops in border battles. The collected materials are stored in the fund of the General Staff. It would be possible to resume the publication of the responses of the front-line soldiers. But the current leaders of military science, apparently, are not eager to continue this obviously useful undertaking of an authoritative journal.

The fact is that in the last two decades, in the historiography of the Second World War and the Patriotic War, there has been a reassessment of certain provisions that were previously considered unshakable. The introduction into scientific circulation of previously unknown documents from the archives of the opposing sides made it possible to rethink the role of some military leaders in preparing for the war, to better understand the reasons for our defeats during the first battles of the initial period of the war. Now, unfortunately, historians and publicists come to opposite conclusions from essentially the same facts. Exposing some myths, some of them are engaged in the creation of new ones. Selecting only the facts they need, they substantiate delusional versions of the development of the situation on the eve and with the beginning of the enemy's invasion of our territory.

Meanwhile, the situation on the Soviet-German border was heating up, although outwardly it was not particularly noticeable. No political demands were put forward by Germany either. The Germans tried by all means to hide from our intelligence the extent of the concentration of troops near our border, which continued at an ever-increasing pace. In doing so, they used various methods of misinformation. The protection of the border (demarcation line) was strengthened, which was carried out by the personnel of the Wehrmacht units in the form of border customs guards. For example, on June 6, guard posts and patrols from the 34th Artillery Regiment received instructions to prevent the exchange (across the border) of agents and dogs, to avoid any Russian provocations, and not to fire on individual Russian planes flying over the border. In the intelligence report of the headquarters of this regiment dated June 10, it was noted that *"troops and civilians in the area of Bialystok, Grodno, Brest are not*

prepared... Jews are trying to buy up Reichsmarks.” And at the same time: “...almost all stations have anti-aircraft guns or machine guns, almost all bridges leading to the border are probably [121] prepared for explosion and guarded by military guards” an ..

On June 10, 1941, the Supreme High Command of the German Armed Forces (OKW) finally determined the day "D" the start of Operation Barbarossa - June 22, stipulating that in the event of a postponement of this period, the corresponding decision would be made no later than 18 June.

It was established that at 13:00 on June 21, one of the two following signals:

a) the Dortmund signal, which meant that the offensive, as planned, would begin on June 22 and that open execution of previously issued orders could begin; b) the signal of "Alton", which

meant that the offensive was postponed to another date. At the same time, it was stated that this would undoubtedly lead to the full disclosure of the goals of the concentration of German troops, since the latter would already be in full combat readiness. The OKW also set the time for the start of

the offensive of the ground forces and the flight of aircraft across the border - June 22, 3 hours 30 minutes, stipulating that if meteorological conditions delay the departure of aircraft, then the ground forces will begin the offensive on their own [7]. On the same day, the contents of the OKW decision, the exact time and hour of the invasion were brought to the attention of the army commanders.

On June 10, the loading of German mobile (tank and motorized) formations into the railway echelons began. The transportation of troops to the concentration areas took on a more intensive character. Based on the planned day of the invasion, the divisions of the first echelon, intended to break through the defenses of the Soviet troops, were supposed to begin on June 18 to take their starting position for the offensive. Mobile formations occupied the initial areas at a distance of 20-30 km from the border, infantry - 7-20 km. That is why the postponement of the invasion after this date was considered undesirable. By the end of June 21, the concentration and deployment of troops intended for the invasion was completely completed. For the relocation of Luftwaffe air groups to airfields

occupied Poland needed less time. Therefore, the mass flight of air formations began later - the two largest fighter squadrons (air divisions) of the 2nd Air Fleet flew to the airfields of the Governor General by June 15, 1941. It was impossible to hide the massive movement of troops to

the east and their advance to the border from the local population, among whom our agents and voluntary informers operated. Apparently, our intelligence managed to fix a change in the transportation schedule. The fact that the attack would take place in the coming days became clear on June 15–17. Measures to bring the troops to combat readiness, of

course, were taken. An order followed to create front-line directorates in the western border districts and withdraw them to field command posts, mask airfields and put the troops of the first echelon on alert, operational readiness No. 2 was declared in the fleet. However, the threatening situation demanded more decisive actions from the Soviet leadership

than those that have been taken. That is why it would be very interesting to hear the answers of the front-line soldiers to the question - when was the order received to put on alert in connection with the expected attack of fascist Germany on the morning of June 22 in the troops, specifically - in divisions and corps. What and when instructions were given on the implementation of this order, and what was done by the troops? In particular, why were the 42nd and 6th Rifle Divisions not withdrawn from the Brest Fortress to summer camps in advance? This is a common practice that would not arouse any suspicion among the Germans.

By the way, when the formation of the 14th mechanized corps began in the spring, the directive of the General Staff provided for its deployment no closer than 100 km from the border. One tank division was planned to be deployed in Pruzhany, the second in Bereza, and a motorized division in Pinsk. But Pavlov insisted on his accommodation option. Thus, the 22nd Panzer Division ended up in Brest. The 205th motorized division was created in Bereza on the basis of one rifle regiment, two artillery battalions and special units of the 42nd rifle division. The remaining parts of this division were transferred to the Brest

fortress. The overcrowding of the deployment of personnel in it has increased

even more. Moreover, on June 14, Sandalov raised the 6th Rifle Division on combat alert, and the day before, the commander of the 28th Rifle Corps announced the alarm for the 42nd Division. Based on the results of the combat readiness check, the command of the 4th Army proposed to withdraw the 42nd Rifle Division from the fortress to the Zhabinka area (one of its regiments was constantly stationed there). But this proposal was rejected by the district commander.

In the early hours of June 22, when it became known from the defector that the Germans would go on the offensive at dawn, again according to Sandalov, General Korobkov called Pavlov several times asking for permission to withdraw troops from the fortress. However, he did not allow it. Later, when the leadership of the Western Front was brought to trial by a military tribunal, Pavlov, trying to justify himself, stated that he had given the order to withdraw troops from Brest to the camp by June 15, but "he personally did not check it, as a result, even the cartridges were not in the cars in advance laid down." Korobkov stated that no one had given the order to withdraw units from Brest. But artillery units, including anti-aircraft ones, were withdrawn to camps and training grounds. Unfortunately, the editorial staff did not get to the answers to the fourth question of the VNU - why most of the artillery [of the border districts] was in training centers. They are hiding in the archives of the General Staff.

One can only assume that, despite the disturbing reports of the concentration of German troops, on our side of the border they continued to live according to the laws of peacetime. Allegedly, this was done because some units had never participated in live firing. But this does not apply to the 120th gap: its gunners fired and at the same time praised the accuracy of the fire of old English howitzers. Obviously, each chief planned the training of units and formations subordinate to him for the summer period, based on the interests of his type (brand) of troops. The time has come, and the troops, including artillery units, went to summer camps and training grounds. The anti-aircraft gunners of the Western District were at the training camp east of Minsk, and the signalmen of the 4th Army were at the training camp in the Kobrin area.

Of course, this had the most negative effect on the actions of the formations of the covering armies in repelling the enemy attack.

Since at one time the front-line soldiers were not given the opportunity to answer this question, we will try to fill this gap and show what difficulties the artillery units encountered, cut off from their formations, permanent deployment points (winter quarters) and operational areas. The memoirs of veterans on this score are confirmed by archival documents, including those of the 4th Army. A strange thing: the few surviving documents of the first days of the war of the army itself were declassified long ago (as was Sandalov's book on the military operations of the 4th Army marked "secret" in 1965), but the documents of the army's artillery headquarters according to the same list of cases were hidden from researchers until 2007. They were declassified at my request on the basis of the order of the Minister of Defense of the Russian Federation A. Serdyukov No. 181 of May 8, 2007 - 66 years after they were written. The reason lies on the surface: they deal with large losses of artillery units in terms of people, weapons and military equipment. Thanks to this, the circumstances under which the deployment of new artillery units on the basis of the existing ones was frustrated were somewhat cleared up, and in many cases the troops in a difficult situation were left without the support of reinforcement artillery. A heavy and extremely ugly

picture. But it was like that ... On June 15, 1941, the 120th Gap left for the training ground in the area of \u200b\u200bthe Obuz-Lesna station (now the Lesnaya station), which is southwest of Baranovichi. The landfill expanded: the personnel had to uproot the forest, build roads, parks to accommodate equipment, and equip the camp. The regiment was given a week to do this, and by June 21 the work was completed. Rest was planned for Sunday, and from June 23 - live firing. A limited number of personnel remained in winter quarters to guard warehouses and locations of units. Specially assigned commanders were engaged in the initial training of local residents mobilized under the guise of training camps. The top platoon of the headquarters battery of the regiment was in Brest at the disposal of the headquarters of the fortified area and was engaged in topographic and geodetic work on tying firing structures and making various schemes for the he

the barracks of the defensive (Polish counterintelligence), the other two - in the

fortress. On the evening of Saturday, June 21, the platoon personnel were involved in loading at the Brest station clothing and other property for the regiment, including more than a thousand bowlers. The platoon, led by the commander, Lieutenant Prokofiev, left for the regiment along with the cargo. The first section of the platoon, after being removed from allowance in the fortress, was supposed to go there with another

batch of property the next day. In mid-June, rumors about the coming war intensified among the commanding staff of the regiment. Anxious moods were also growing in their families, wives were tormented by bad forebodings. However, what forebodings, when the locals, who had fairly strong ties with their relatives on the other side of the insufficiently equipped border, directly said that the war would soon begin and "German" would come here. In mid-June, vacations were canceled for the command staff. Then, in order not to cause panic, the directive of the people's commissar forbade the command staff to send families to the Union. Local residents tried to sell Soviet money. Queues formed in the shops (an unprecedented thing before), they snapped up everything in a row: flour, sugar, salt, kerosene, soap, matches. The owners of small private enterprises willingly accepted orders (especially from the military) for the manufacture of clothing, footwear, etc., but were in no hurry to fulfill them. The priest of the city of Kossovo directly told Lieutenant Alekseev from the 120th GAP, who was quartered with him, that on Sunday, June 22, the war would begin. And he advised him to send his pregnant wife to give birth to her mother, in Leningrad. Alekseev managed to send his wife a day before the start of the war. The wives of the commanders, worried about all these rumors, were very worried. The battalion commissar Rusakov had to collect them and calm them

- Well, what are you worried about? Do you feel bad here? Well, the mess will begin - you will live in Warsaw or in

Berlin! On Saturday evening, June 21, the soldiers and commanders of the 4th Army finally got the opportunity to rest after hard work for a week. Everyone hoped that at least this Sunday there would be no training alarms. Some commanders and a political worker from the command of the 4th Army decided to take advantage of the arrival

Moscow stage artists to Brest and visit the theater. The commander of the army, General Korobkov, and the chief of staff, Colonel Sandalov, went to the House of the Red Army in Kobrin for a performance by the artists of the Belarusian Operetta Theater. If we agree with the version of M. Solonin, all this was done to lull the vigilance of the Germans and enhance the effect of the Soviet provocation planned for June 22. But Korobkov and Sandalov did

not manage to enjoy the skill of the artists: at about 11 p.m. they were called to the telephone by the chief of staff of the district. There were no special orders, and they already knew that they needed to be ready. Just in case, Korobkov summoned senior officials of the army administration to the headquarters. The fact that the

attack would take place in the coming hours became clear by midnight on June 22. At one in the morning on June 22, west of Volchin, a German soldier swam across the Bug, who announced that at 4 o'clock Germany would attack the USSR. The head of the outpost announced a combat alert and immediately reported the defector to the commandant of the section, and through him to the commander of the border detachment. The latter reported the defector and his statement to Bialystok, to the headquarters of the border troops of Belarus, and gave the order to all outposts - to keep up to 75% of the personnel under arms. This data did not get to the headquarters of the 4th Army due to a communication breakdown. But even earlier, on June 21 at 21:00, another German soldier, Alfred Liskov, who fled from the German army, crossed the state border near the city of Sokal, Lviv region of the Ukrainian SSR. At about 1 am on June 22, a soldier brought to the city of Vladimir-Volynsky showed that on June 22 at dawn the Germans should cross the border. This was immediately reported to the responsible duty officer of the headquarters of the border troops and by telephone - the commander of the 5th Army, Major General Potapov, who was suspicious of this message. It was ordered to strengthen the protection of the state border, putting up specially hearing-bearers to the Bug River. During the second interrogation, A. Liskov called himself a communist and said that he had come to warn about the attack on his own initiative. At this time, on the site of the first commandant's

office, the Germans opened fire with artillery fire. Communication with the commandant's office was broken. The testimonies of the two deserters mentio

According to the memoirs of Marshal Zhukov, there was another defector in the KOVO zone - a sergeant major, who, apparently, crossed the border much earlier than the first two. But so far nothing more has been found out about him. He also claimed that the German troops were leaving for the starting areas for an offensive that would begin on the morning of June 22. This

was reported to

Timoshenko and Stalin. G.K. Zhukov recalled: *"Having taken with us a draft directive to the troops, together with the People's Commissar and Lieutenant General N.F. Vatutin, we went to the Kremlin. On the way, we agreed at all costs to achieve a decision to put the troops on*

combat alert [emphasis mine. - L. L.]. Meanwhile, members of the Politburo entered the office of I. V.

Stalin. Stalin briefly briefed them. - What do we do? - asked I. V. Stalin.

There was no answer. - It is necessary to immediately give a directive to the troops to bring all the troops of the border districts into full combat readiness [emphasis mine. - L. L.], - said the people's commissar. — Read! - said I. V. Stalin. I have

read the draft directive. JV Stalin remarked: "It is premature to give such a directive now, perhaps the issue will still be settled peacefully. It is necessary to give a short directive in which it is indicated that the attack can begin with provocative actions of the German units. The troops of the border districts should not succumb to any provocations, so as not to cause complications. Wasting no time, N. F. Vatutin and I

went into another room and quickly drafted a directive from the people's commissar [Vatutin was not with Stalin. - L. L.]. Returning to the office, they asked permission to report. I. V. Stalin, having listened to the draft directive and read it again himself, made some amendments and handed it over to the people's commissar for signature. Judging by the "Journal of

Visits", Timoshenko and Zhukov were in Stalin's office for an hour and a half. Thus, according to Zhukov, the well-known Directive No. 1 was born. At the same time, Zhukov claims that he and Timoshenko insisted on bringing all border troops

districts in full combat readiness, but Stalin made some amendments. Which - Zhukov does not mention. But in the Directive passed to the districts, it is precisely about full combat readiness! In his book, but a few pages earlier, Zhukov wrote: *"The General Staff only became aware of the day of the attack of the German troops from a defector on June 21, which we immediately reported to I.V. Stalin. He immediately agreed to put the troops on alert, "[emphasis added by me - L. L.].* Combat readiness and

FULL combat readiness - what is this, a play on words? What was the difference in the state of the troops and headquarters in both cases is not clear. There were three operational readiness in the Navy - No. 3, 2 and 1 - as it was built up [122] . Thanks to bringing the fleet to readiness No. 1 and permission to open fire during an attack on its bases, which Timoshenko verbally gave on June 21 to the People's Commissar of the Navy, the enemy did not sink a single of our ships and caused only minor damage to the fleet [9].

Of course, the army in this respect is a more complex organization than the navy. It did not have such a clear system of combat readiness then. There were only two states - peacetime and wartime - after the announcement of mobilization. From the position of today, it is not clear why some other intermediate readiness was not determined - before the announcement of mobilization? For example, only for covering armies in order to have at least a part of the troops capable of immediately starting hostilities. Most likely, in Moscow they were afraid of the excessive independence of the commanders. But the fact that a clear warning system for troops and headquarters was not thought out in the event of a sudden attack by the enemy is a serious miscalculation of the military leadership. This is the direct responsibility of the Chief of the General Staff. Nothing has been done in this regard. Instead of explaining what exactly the troops had to do in order to repel a possible sudden attack by the Germans, Zhukov, in his memoirs, started a game of words in retrospect. Here one can clearly see the marshal's desire to emphasize once again that Stalin did not allow him and the people's commissar to fully prepare the troops to repel a possible German attack and thereby relieve himself - the chief of the General Staff - of responsibility for their unpreparedness.

Here I would like to say a few words about the "red" packages, which Rezun repeatedly mentioned, trying to make the USSR a warmonger. Referring to Rokossovsky and other commanders, he writes that *"they did not find anything there [in packages] necessary for defense."* What packages are intended for whom? The question is, why assign defense missions to formations located hundreds of kilometers from the border and advancing on alert to the areas of their operational mission?

But Rezun immediately draws a global conclusion: *"the Soviet commanders had plans for the war, but there were no plans for a defensive war."* So, for example, he argued that the combat missions for the offensive were determined by all Soviet commanders. But tactical level commanders had no right to know them. *These "tasks in the higher headquarters were clearly defined and formulated, sealed in secret packages and kept in the safes of each headquarters up to and including the battalion" [emphasis mine. - L. L.].* According to Rezun, it only remained to give a prearranged signal - they would all open the packages at once, and the troops of the first strategic echelon of the Bolsheviks would

rush in unison against the enemy. In fact, according to the instructions, the "red" packages were kept by the chiefs of staff of formations and associations along with the mobplane. The specific content of the documents stored there can be found on the example of the "red" package of the 1st Rifle Corps of the 10th Army of the Western Front (which, according to Rezun, was supposed to be the first to rush at the enemy). The package was captured by the Germans, kept in the archives of Danzig, from where it was returned to TsAMO. It has an inscription in German - Inhalt: 1 rote Originalmappe mit Originalverzeichnes (Blatter von 1-176 durch nummeriert und geheftet), which can be translated as follows: "Contents: 1 red genuine folder with genuine orders (sheets 1 to 176 numbered and bound). The Germans did not even consider it necessary to translate the 46 documents of the package, be

This "red" package marked "Owls. secret, of special importance" was accepted for storage on June 15, 1941 by the chief of staff of the corps, Lieutenant Colonel S. Ivanov. The documents determined the procedure for cover actions, they outlined the alarm actions for all units and divisions of the corps. Corps consisting of two rifle

divisions with attached units were supposed to cover subsection 1, 157 km wide, border cover area 2.

The package indicates: who can alert the units, the combat strength of formations and units in which they must go to their areas and the time the units are ready for action and occupation of defense areas, etc. It was indicated that the cipher telegram on the commissioning of the defense plan will look like: "To the commander ... I declare an alarm with the opening of the red package. Signature". And such telegrams (or conditional signals for opening packages), contrary to Rezun's statements, were given - but with a great delay.

It is impossible to state the content of all the documents in the article, and it does not make sense: it is important for us to know the task of the

1st Rifle Corps: " a) *Defend the state border in the forefield zone, preventing the enemy from invading the territory of the USSR. Encircle and destroy enemy units that have broken through the state border.*

b) *In the event of an offensive by clearly superior enemy forces firmly occupy and defend the main defensive line.*

The documents of the package were worked out in January-February 1941, the combat order of the corps was signed on February 18, 1941. The actions of the troops were practiced with command personnel, as well as with units and subunits, advancing along designated routes, not reaching the border closer than 5 km. It is characteristic: for the protection of bridges, as a rule, one rifle squad with a light machine gun was allocated. In an explanatory note, the corps commander made the following conclusion: "[...] to

conduct a stubborn defense in cooperation with all branches of the armed forces, to fight on a wide front with individual garrisons independently, to the last strength, without leaving their place, since [123] corps is not allowed to retreat » *the* .

Now much is hidden for us by a dense veil of secrecy. But from what is known, we can conclude that the commanders of the border districts, much better than in Moscow, represented the ever-increasing danger of a German attack and tried to do something. However, such attempts were nipped in the bud so as not to provoke the Germans. The military leadership had too much confidence in Stalin - who, it must be admitted, made impressive progress in returning to the fold of the former Russian Empire.

territories seized after the revolution. And who could object to him after the repressions of 1937-1938? There are no people left in the Red Army capable of even trying to contradict the leader. On the eve of the war, the People's Commissar of Defense and the Chief of the General Staff showed at least cowardice. In the old Russian and in the new Soviet army, the generals (with rare exceptions) were more afraid of their superiors

than of the enemy. It is a pity that S. M. Timoshenko categorically refused to write his memoirs. But he could tell a lot (if allowed) about the relationship in the military and political leadership of the country. After all, there are no relevant documents left. Unlike Hitler, whose rantings were scrupulously recorded in the interests of the history of the thousand-year-old Reich, Stalin forbade taking minutes, and even more so shorthand, discussions of important issues in a narrow circle, as well as meetings of the Headquarters and the State Defense Committee - so that later, in which case, it would be easier to shift responsibility for failure on those who blindly followed his own instructions (he did th

When visiting the editorial office of the Military History Journal on August 13, 1966, in a moment of frankness, G.K. Zhukov made a characteristic confession recorded on a tape

recorder: *"Timoshenko began to move something, despite the strictest instructions. Beria immediately ran to Stalin and said: well, they say, the military is not doing it, they are provoking, I have a report from [inaudible - Ed.]. Stalin immediately telephoned Timoshenko and gave him a proper smack. This beat came down to me. What are you watching? Immediately call Kirponos to the phone, immediately take them away, punish the perpetrators, and so on. I, of course, did not lag behind in this part. Well, it's gone. But other commanders did not dare. Give an order, then ... And who will give the order? Who wants to lay down their head? Here, for example, I, Zhukov, feeling the danger looming over the country, give the order: "deploy". Stalin is reported. On what basis? Based on danger. Come on, Beria, take him to your basement. Of course, I do not absolve myself of responsibility [...]"*[10]. Here the illustrious marshal

confessed that he did not have the civic courage to tell the leader the truth about the actual state of affairs. And for this it was necessary to recognize

that they missed the deployment of German troops for the attack, that the troops of the covering armies, in their composition, are not capable of repelling the blow of the Germans and ensuring the mobilization and deployment of the Red Army. After all, Stalin was convinced that the Soviet defense would withstand the first blow of the Germans, and thus an opportunity would be created for the implementation of counteroffensive plans, which were repeatedly practiced in exercises at various levels. Thus, Zhukov admitted that he put his safety and personal well-being above state interests. However, it is time to return to the events that unfolded in the direction of the main attack

of Army Group Center - in the zone of the 4th Army of the Western Front. According to them, one can well imagine the situation that developed in the first hours and days of the invasion in other sections of the state border of the Soviet Union. But first, let's give the floor to the chief of staff of the 4th German field army, General Blumentritt, who later recalled: *"As we assumed, by the evening of June 21, the Russians should have understood what was happening, but on the other side of the Bug, in front of the front of the 4th army and 2th*

Panzer Group, that is, between Brest and Lomza, everything was quiet. The Russian border guard behaved as usual. Shortly after midnight, the international train Moscow-Berlin passed through Brest without hindrance [...] [11]. Guderian echoes him: *"Careful observation of the Russians on June 21 convinced me that they did not suspect anything about our intentions. In the courtyard of the Brest Fortress, which was visible from the observation post, guards were raised to the sounds*

of the orchestra. The coastal fortifications along the Bug River were not occupied by Russian troops [...] [12]. Directive of the People's Commissar of Defense No. 1 on a possible surprise attack by the Germans during 22-23.6.41 at the headquarters of the ZapOVO was received on June 22, 1941 at 1.45. Immediately after the decryption, the district headquarters from 2.25 began to transfer its contents to the armies:

DIRECTIVE OF THE COMMANDER OF THE

TROOPS TO THE COMMANDER OF THE TROOPS OF THE 3rd, 4th and 10th ARMIES

June 22, 1941

I convey the order of the People's Commissariat of Defense for immediate versions:

1. During June 22-23, 1941, a surprise attack by the Germans on the fronts of the LVO, PribOVO, ZapOVO, KOVO, OdVO is possible. The attack may start with provocative actions. 2. The task of our troops is not to succumb to any provocative actions that can cause major complications.

At the same time, the troops of the Leningrad, Baltic, Western, Kyiv and Odessa military districts should be in full combat readiness to meet a possible surprise attack by the Germans or their allies. I ORDER:

a) during the night of June 22, 1941, covertly take fire points of fortified areas on the state border;

b) before dawn on June 22, 1941, disperse all aviation, including military aviation, over field airfields, carefully disguise it; c) put all units on combat

readiness. Troops to keep dispersed and disguised;

d) put the air defense on alert without additional lifting of the assigned staff. Prepare all measures to darken cities and objects; e) no other activities without special orders

conduct. *Timoshenko, Zhukov, Pavlov, Fominykh, Klimovskikh* [124] .

So the commander of the ZapOVO General Pavlov, having received on June 22, 1941 at 1:45 am, the NPO directive No. 1 on bringing the troops to full combat readiness, orders all units to be put on combat readiness. At the same time, *"during the night [...] covertly occupy [...] before dawn [...] disperse and disguise [...]"*. They began

to transmit the order at 2:25, and dawn at the latitude of Brest came at 4:15. Unsubscribed, and there at least the grass does not grow. How many times during the war will this be repeated! Many orders were written "for the prosecutor" (let's add: for the Special Departments).

But the headquarters of the 4th Army did not receive this directive. At about 2 o'clock in the morning (two hours before the invasion), enemy agents from local opponents of Soviet power began to operate, and its sabotage groups, previously abandoned in our rear. They put out of action almost the entire wire communication of the army headquarters with the troops and

district. Only the line to Pinsk remained serviceable. With the measures taken, about an hour later, communication with the district headquarters was restored. According to Sandalov, at 3:30 the commander of the district troops informed General Korobkov by telegraph that a provocative raid by Nazi troops on our territory was expected that night. At the same time, he categorically warned that our troops should not succumb to a provocation. The actions of the district command were constrained by the order of the people's commissar "not to succumb to any provocative actions." Directive No. 1 was received in the 4th Army when its headquarters in Kobrin was destroyed by an enemy air strike. The commander of the 4th Army, who had the right to raise one division on alert at any moment,

decided first to consult with Pavlov. But he, of course, did not allow it. When asked by Korobkov what events are allowed to be held, Pavlov

answered:

"Bring all parts to combat readiness. Immediately begin to advance the 42nd division to occupy the prepared positions. Covertly occupy pillboxes with parts of the Brest fortified area. Relocate the regiments of the air division to field airfields "[13]. As communications were restored, the relevant orders

were transmitted to the troops. Before 4 o'clock, the commander personally by telephone gave the order to the chief of staff of the 42nd Infantry Division and the commandant of the Brest fortified area, but it was too late. The order to put the 14th MK on alert, given at 03:30, did not manage to be transferred to formations and units before the start of hostilities. Only when reports began to arrive from units and formations that the Germans had begun shelling, the army command was convinced that the war had begun. The commanders of the formations that were subjected to shelling and bombing, independently began to raise units on combat alert, trying to act according to the cover plan, although it no longer corresponded to the current situation. Attempts to clarify the tasks due to the lack of communication were not successful. Targeted enemy air strikes against communication centers and command posts disrupted troop control. By dawn, the communication of the front headquarters with the armies was completely disabled.

At about 6 o'clock, the district headquarters received a telegram, on which the time of departure from Moscow was affixed - 5.25: *"In view of the mass hostilities indicated by the Germans, I order to raise troops and act in a combat manner"* [125]. The order was immediately duplicated by the armies. The 4th Army was given a signal "Kobrin-41" to open the "red" packages and put into effect plans to cover the state border.

On the Brest direction, the enemy began artillery preparation at 3:15 (4:15 Moscow time), simultaneously with the start of the raid on the Soviet border airfields. At 04:15, the chief of staff of the 42nd Infantry Division reported to the army commander that the enemy had opened massive fire on Brest. In

accordance with the plan, the main effort of the Luftwaffe, starting at 4 am on June 22, was directed towards gaining air supremacy. The fulfillment of this task was facilitated by the fact that the Russian air units were located mainly on previously reconnoitred stationary airfields. It must be said that in 1939 the Germans managed to capture the documents of the General Staff of the Polish Army in Warsaw. Of these, they were well aware of the location of the main military facilities in Western Belarus, including airfields, military camps and stationary warehouses of materiel used by Soviet troops. In addition, the German command made extensive use of its agents from among people who were hostile to the Soviet regime for reconnaissance and additional reconnaissance of important objects and targets. Therefore, the first strike, which involved 637 bombers and

231 Luftwaffe fighters, was inflicted on 31 Soviet airfields. And in total on that day, 1765 bombers and 506 enemy fighters participated in the attack on 66 Soviet airfields, on which 70% of the planes of the border districts were located. According to German data, as a result, on the very first day of the war, 890 Soviet aircraft were destroyed, of which 668 were on the ground, and 222 in air battles. The losses of the Luftwaffe amounted to only 18 aircraft [5]. According to our official data, on June 22 the aviation of the border districts lost 1,200 aircraft, of which 900 were at airfields. On the first day, the Western Front lost 738 aircraft, most of them on the ground.

A more detailed study showed that the large losses of aircraft are the result not so much of enemy air strikes as of leaving them to the enemy for various reasons, including as a result of a forced withdrawal. Thus, the Germans managed to gain air supremacy on the very first day, which provided the German troops with a huge advantage in the course of hostilities on the ground. In addition, Luftwaffe aircraft continued to inflict successive strikes on well-reconnoitered command posts and communication centers, ammunition and fuel depots, and railway stations. For example, in the zone of the 4th Army, the Germans attacked the ammunition depots of the ZapOVO in Pinsk and Bronna-Gura. There is no point in retelling everything that happened that

day. This is done in hundreds of memoirs and articles by direct participants who survived the beginning of the war on the border. There was panic and moments of confusion. From the report of the German eavesdropping post (the result of radio interception): *"The Russian military radio*

station is asking: "We are being fired upon.

What should we do? From the senior radio

station they answer: - You are probably

not healthy? And why isn't your message encoded?" [eleven].

According to the

entries in the combat log of the 4th Army, at 4 o'clock on June 22, the units were alerted and began to advance to their areas without opening the red package. At 4:00-4:10 the bombing of the cities of Brest, Kobrin, Pruzhany began. Communication with the corps and divisions in the corps, except for the garrisons of Bereza (205th MD) and Malorita (75th RD), ceased. Communication with them is carried out by delega

Simultaneously with the bombing from the air, artillery preparation began in the city of Brest, the fortress, barracks, car parks and hostels. It was not possible to withdraw all the personnel and materiel from the fortress, and by 10 o'clock parts of the Brest garrison had suffered heavy losses. At the Brest artillery range, which was located southeast of the city, there were units of the 28th rifle corps assembled for experimental exercises, as well as divisions of the 204th gap of the 6th rifle division and the 455th corps artillery regiment in tents. At the moment of opening fire on the range, everyone decided that some kind of

inconsistency with the start of the exercises. Attempts were even made with the help of rockets and sound signals to stop the artillery fire. The chief of staff of the 4th field army, General Blumentritt, noted in his memoirs: *"At 4 o'clock, all our artillery opened fire. And something happened that seemed like a miracle: the Russian artillery did not answer ... "[I].*

The formations located in the immediate vicinity of the state border, including the 6th Rifle Division (with the exception of its howitzer regiment), the main forces of the 42nd Rifle Division, as well as units of the 22nd Tank Division located in the southern the military town of Brest, 2.5–3.5 km from the state border,

In addition to the artillery of the 45th Infantry Division and the 12th Army Corps, nine light and three heavy separate batteries attached to Guderian's tank group, three divisions of 210-mm mortars and a high-capacity battery armed with 600-mm siege mortars took part in the artillery preparation . To adjust the fire, the Germans used several observation balloons. A sudden artillery attack caused confusion

among the personnel stationed in the fortress. In addition, many commanders who survived the raid were unable to penetrate the barracks due to heavy barrage fire. As a result, the Red Army soldiers and junior commanders, in groups and singly, tried to get out of the fortress on their own. But they could not get to the gathering place on alarm, since the Germans, knowing about it, conducted concentrated fire on this area. Some commanders still managed to get to their units and subunits, but they

could not withdraw them and remained in the fortress themselves. Losses in people, weapons and military equipment were very large. Most of the guns in the open artillery parks were destroyed. Only 8 guns of the 2nd Battalion of the 131st Artillery Regiment of the 6th Infantry Division were withdrawn from the fortress. Cars burned in open car parks. Almost all the horses of the artillery regiment of the 6th SD, artillery and mortar units died at their hitching posts. inviolable

the stocks in the warehouses were partially destroyed, the rest of the property went to the Germans. In the very

first hours of the battle, the Germans managed to capture many fighters and commanders who escaped from the fortress. Recently, German newsreel footage has become widely known, showing how half-dressed soldiers and commanders are being driven along the railway bridge to the other side of the Bug. Many books have been written about the courage of the heroic defenders of the Brest Fortress. Indeed, having shown steadfastness, they pinned down the 45th and part of the forces of the 31st Infantry Division for a long time, which suffered heavy losses. But the majority of readers who know the history of the war superficially have the impression that the defenders of the fortress delayed the advance of the Germans in the Brest direction for a long time. We recall that Guderian's two motorized corps bypassed Brest from the north and south, closing their flanks far to the east of

it. In German sources, this is how the beginning of the invasion is described. As soon as dusk fell on the evening of June 21, soldiers of the 3rd Panzer Division boarded vehicles, motorcycles, armored cars and tanks and began a 20-kilometer march from the assembly area to the western bank of the Bug River, opposite Koden, just south of the Soviet fortress of Brest Litovsk. The first volleys of artillery preparation were supposed to be made on June 22 at 03:15.

The 3rd and 4th Panzer Divisions were to cross the river [at](#) the same time and move northeast, bypassing Brest, in the direction of the Brest-Kobrin highway. force the Bug along [the](#) bottom in case the Russian guards of the bridges on the east bank could blow up the bridge at Koden. The corps handed over to the division a group of pontoon sappers in order, if necessary, to build a pontoon bridge across the river. However, Model obtained permission from Guderian to form a special assault unit of infantry and sappers in order to quietly cross the bridge 20 minutes before the first shots were fired. They were supposed to suddenly attack the garrison and clear the bridge. The idea was a success: at 03:11 an officer of the XXIV Corps reported to Guderian's headquarters that the bridge had been captured, and infantry on motorcycles had crossed the river on their vehicles.

The Germans bashfully omit the details of the capture of this bridge. Let's fill this gap. At about 4 o'clock, they began to shout from the German side that German border guards should immediately cross the bridge to the head of the Soviet frontier post for negotiations on an important and urgent matter. Our border guards refused. Then, from the German side, fire was opened from several machine guns and guns. Under cover of fire, an infantry unit broke through the bridge [13]. The Soviet border guards guarding the bridge fell in this unequal battle with the death of heroes.

At 03:45, advanced infantry groups and sappers of the 3rd TD division, under cover of artillery fire, crossed the Bug River in rubber boats. With the capture of the eastern bank of the Bug, the tanks of the 3rd Battalion, equipped for movement under water, crossed the river. The remaining tanks, due to traffic jams, began crossing the bridge after 10:00. Although the bridge was captured, the sappers hastily built additional crossings a few kilometers up and down the river. In the first hours of the invasion, the Russians offered no resistance. Combat outposts were deployed on the east bank, and the forward units of the 1st reconnaissance and 3rd motorcycle battalions rushed forward to find the main enemy forces. They were followed by the combat groups of the division, led by the commanders of the regiments and brigades of the division. In the very first report, V. Model noted that complete operational surprise had been achieved [14]. The German command

took special measures to capture bridges and crossings over water barriers. For their capture and defense, not only specially trained groups were used, but also advanced and reconnaissance detachments of formations. In the very first minutes and hours of the war, the Germans in the zone of the 4th Army managed to capture in full serviceability four road and two railway bridges across the Bug. The railway bridge near Brest was captured by troops disembarked from an armored train even before the artillery opened fire. To the north of Brest, tank units of the 17th and 18th Panzer Divisions of the 47th Panzer Corps began crossing the Bug at 4:15 (5:15 Moscow time). At 4:45 the first tanks crossed the river. The construction of additional crossings immediately began. By the end of June 22, all the bridges planned by the plan in the zone of Army Group Center were

ready to let in the troops. Construction of additional temporary bridges continued. At the same time, the pontoon-bridge property of the first echelon formations, as a rule, was not used.

Official accusations against the USSR were voiced in a memorandum handed over by the German Foreign Minister Ribbentrop to the Soviet ambassador in Berlin on June 22, 1941 at 4 o'clock in the morning. So at the moment when our ambassador was handed a note declaring war, bombs and shells had already fallen on Soviet cities and troops in the border areas of the country, and units of the Wehrmacht had crossed the state border of the Soviet Union. In Moscow, the German ambassador handed Molotov a note with a formal declaration of war at five o'clock. Only after this did the troops receive the order to "act in combat." The Germans immediately noted this: *"only after 9 o'clock in the morning the actions of the Soviet troops began to be more targeted."* Formations of the 4th Army, taken by surprise, did not have time to take up prepared positions and entered into battle with superior enemy forces in extremely unfavorable conditions for themselves. Nevertheless, after some confusion, the Soviet troops put up fierce resistance to the enemy. The Germans broke into Brest from the south, but the fortress, the railway junction and the entire northern part of the city remained in our hands. The batteries of the 447th Cap and the 131st Artillery Regiment located in this area opened fire on enemy units crossing the Bug and inflicted significant damage on them. A wrecked armored train remained on the railway bridge, and traffic on it was stopped. By this time, the German troops north and south of the city, overcoming the weak resistance of our troops, were advancing eastward. At 07:15 on June 22, 1941, Directive No. 2 was signed in Moscow: *"On June 22,*

1941, at 04:00 in the morning, German aviation, without any reason,

raided our airfields and cities along the western border and bombarded them. At the same time, in different places, German troops opened

artillery fire and crossed our border.

In connection with the unheard-of impudence attack from Germany against the Soviet Union I ORDER:

1. *Troops to attack enemy forces with all their strength and means and destroy them in areas where they have violated the Soviet border.*
2.

Reconnaissance and combat aviation to establish the places of concentration of enemy aviation and the grouping of its ground forces.

Destroy aircraft at enemy airfields and bomb groupings of his ground forces with powerful strikes by bomber and attack aircraft.

Air strikes should be carried out to the depth of German territory up to 100–150 km.

Bomb Koenigsberg and Memel.

To the territory of Finland and Romania until further notice no raids” [127] — ..

Although the active actions of the 14th mechanized corps in the Brest direction managed to somewhat slow down the pace of advancement of Guderian's tank formations, it was not possible to turn the tide of hostilities. Judging by German sources, on the first day of the war, the Germans experienced difficulties not so much because of the resistance of the Russians, but because of the difficult wetlands. Model's 3rd Panzer Division entered the so-called Panzer Route No. 1, ahead of the 4th Panzer Division. From that moment on, the main forces of both divisions of General Geyer's 24th Corps operated along the Kobrin-Bereza-Slutsk road, basically following each other. In connection with the change in the direction of the division's offensive, a new vanguard had to be sent forward, consisting of a rifle company on motorcycles and a tank company with sappers. By the end of the day, units of the 3rd Panzer Division had reached the Mukhavets River. Since the wooden bridge had already been burned to the ground, further advance had to be stopped. The total advance from the border was 18 kilometers instead of t

The next day at noon, after a short attack, Kobrin and the bridge over the Bug-Dnepr canal were captured. Having advanced another 65 kilometers, the advanced units of the 3rd TD captured the regional center of Kartuz-Bereza. *“The Russians were completely taken aback by our attack. They offered little resistance and carried out deterrent actions, using the conditions of the terrain (forest and swamps). Enemy tanks, randomly*

departing from Brest-Litovsk to the east were captured or destroyed. During the first two days of the war, the 3rd TD destroyed 197 enemy light tanks and several hundred guns of various calibers. On the same days, unarmored troops and rear columns suffered significant losses caused by enemy troops cut off from their main forces. They hid near traffic routes, opened sudden fire and could only be defeated in intense hand-to-hand combat. German troops had not experienced this type of warfare before. Enemy planes had a good chance to attack our troops, because we were only going along one road, but they were not able to stop our advance" [14]. The tank wedges of the Guderian group, bypassing Brest from the south and north, relatively easily "pierced" the

weak, hastily taken defense of the scattered formations of the 4th Army. Suffering heavy losses, the Soviet troops could not withstand the onslaught of the enemy, who, using the captured bridges, quickly increased the force of the blow. Having met serious resistance at any line, the Germans immediately called in aviation, at the same time their reconnaissance began to look for gaps and open flanks that were not occupied by our troops. The unsuccessful actions of our troops were largely due to massive enemy air

strikes. German aviation, which had seized air supremacy, bombed with impunity the positions of our troops, artillery firing positions, clearing the way for ground troops. At the same time, enemy dive bombers disabled gun after gun. Although some Soviet units managed to somewhat stop the advance of the enemy, by the end of June 22, the Germans managed to advance from the state border by 25–40 km, and the forward detachments reached Kobrin. An excerpt from the combat log of the 4th Army: *"By the end of June 23, scattered units of the 28th Rifle Corps and the 14th*

Mechanized Corps, which had not had time to put themselves in order [after not entirely successful attempts to stop the enemy advance with counterattacks], attacked by enemy tanks with the support of a large the number of aircraft, began to withdraw, which turned into an unorganized continuous retreat of the mixed units beyond the river. Yaselda. The organized [128] detachments of the barrier could not stop the retreat.

The retreat of the formations of the 4th Army put the left-flank formations of the 10th Army in a difficult position. In addition, the 13th Army, which had not yet completed its formation, did not reach the Belsky section of the border cover. The 49th Rifle Division had to be reassigned to the 10th Army. Front headquarters had no connection with her. Pavlov sent his deputy General I.V. Boldin to Commander K. D. Golubev with the task of clarifying the situation and organizing a counterattack in the Grodno direction, as envisaged by the cover plan. The fact is that at

the headquarters of the front, not receiving reports from the armies, they incorrectly assessed the situation. In the report of the chief of staff, General Klimovskikh, at 22:00, it was concluded that the 3rd and 10th armies had withdrawn, and the formations of the 4th continued to fight near the border. As a result, the General Staff was misled. He was more worried about the situation near Grodno, where there was a deep coverage of the right wing of the Western Front. The Soviet military-political leadership, having a poor idea of the situation at the front, tried to wrest the strategic initiative from the hands of the enemy. Moscow underestimated the most powerful enemy grouping in the Brest-Baranovichi direction and thought more about defeating the Suwalki and Lublin groups, deciding that there were enough forces for a

retaliatory strike. On the evening of June 22, the headquarters of the fronts received Directive No. 3, developed on the basis of pre-war plans, in which noted:

"1. The enemy, delivering blows from the Suvalkovsky ledge to Olita and from the Zamostye region on the Vladimir-Volynsky, Radzekhov front, auxiliary blows in the directions of Tilsit, Siauliai and Sedlec, Volkovysk, during 22.6, having suffered heavy losses, achieved little success in these directions.

On the remaining sections of the state border with Germany and on the entire state border with Romania, enemy attacks were repulsed with heavy losses — ..

[...]" [129] Further, offensive tasks were set for the fronts in the directive. It was signed by Tymoshenko, Malenkov, Zhukov. There is a note: "Sent at 21:15 June 22, 1941."

Some publicists, supporters of Rezun, believe that this directive once again confirms that the Soviet General Staff had no defensive plans, only offensive ones. It does not confirm anything: similar plans are being developed in all the armies of the world (there were also during the Warsaw Pact). There was no time left to develop a new solution; it was necessary to direct the commanders and troops to take decisive action. The course of action outlined in the directive clearly did not correspond to the prevailing situation, but to some extent it was practiced on the maps. Alas, the tasks set excluded the

creation of a stable defense. As a result, hastily prepared counterattacks met with minimal success. Thus, the counterattacks of the troops of the North-Western (June 23-24) and Western Fronts (June 23-25) only led to significant losses, but practically did not affect the development of the operations of the enemy strike groups. Only on the Southwestern Front, where on June 26-29 in the Lutsk-Rivne-Brody region the largest tank battle of the beginning of the Second World War of 1939-1941 took place, did the Soviet troops partially manage to stop the advance of the German troops. However, the losses incurred in tanks led to the virtual cessation of the existence of most of the mechanized corps of this front. Here, apparently, it would be appropriate to recall

the plan of actions of the command of Army Group Center. Von Bock was tasked with defeating the main forces of the opposing Western Front, located in the Bialystok ledge, by all means. Located in this ledge (if it was held), a large grouping of Soviet troops could strike both on the flanks and in the rear of the advancing German troops and thereby delay their advance. The encirclement and defeat of the Bialystok grouping was planned to be carried out by delivering two strikes in converging directions from the Suwalki and Brest regions in the general direction to Minsk. It was assumed that the rapid defeat of the main Russian forces in Belarus would open the way for the advance of the German armies to Smolensk and further to Moscow. Thus, the plan of the operation was to dismember the Soviet troops in Belarus by the offensive of two flank strike groups and, developing

offensive in depth, carry out a double envelopment of the main forces of the Western Front and complete their defeat in the area between Bialystok and Minsk.

The main role in achieving the goal was to be played by the troops of the 2nd (commander Colonel General Guderian) and 3rd (commander Colonel General Goth) tank groups, which included five motorized corps, that is, as many mobile formations as there were in the other two army groups. Our command failed to uncover this enemy's plan to encircle the main

forces of the Western Front in a timely manner and in full measure. The maximum that was allowed was an attempt to close the pincers in the Volkovysk area. The transfer of the main efforts of our troops from the southwestern direction to the western had to be carried out under conditions of an acute shortage of time and under the bombs of the 2nd air fleet of the Luftwaffe. This is how the party leadership of the Brest region represented

the current situation. Excerpts from a letter (the document is stamped "Soviet secret. Special folder") of the secretary of the regional committee of the CP(b)B M.N. Tupitsyn dated June 25, 1941, addressed to Comrade Stalin in the Central Committee of the All-Union Communist Party of Bolsheviks and Comrade Ponomarenko to

the Central Committee of the Communist Party of Belarus (b) of Belarus: "[...] and direct military operations [...] The invasion of German troops into our

territory happened so easily because not a single unit and formation was ready to accept battle, therefore they were forced to either retreat in disarray or die. The 6th and 42nd divisions of the division in Brest and the 49th rifle division in the Vysokovsky district found themselves in this situation. In the Brest Fortress, on the

very border, they kept two divisions, which, even in peaceful conditions, needed a lot of time to leave this fortress and turn around for military operations. In addition, despite the signal of military danger, the command staff lived in the city in apartments. Naturally, at the first shots, panic arose among the Red Army, and a powerful flurry of German artillery fire quickly destroyed both divisions [...]

A separate (120th) regiment of the ARGC was located in the Kossovsky district. On June 22, when the regional leadership moved there, we found this regiment in such a state: the material part was in the city of Kossovo, the fighters were in camps near Baranovichi (150 km from Kossovo [130]), and there was no ammunition. To take out the materiel from Kossovo, the regiment commander did not have enough drivers and tractor drivers. The regional committee of the CP(b)B helped to mobilize these cadres on the spot in civil organizations. But by the time they managed to transfer some of the guns, it was already too late - they were destroyed by bombs, and, in fact, all the valuable

guns remained with the Germans. A lot of ammunition and weapons perished in the warehouses on Bronnaya

Gora, and there were not enough ammunition and weapons in the military units. [...] Command of the 4th Army [...] did not prepare for military operations. As a result of this state, from the very first day of hostilities, panic began in the units of the 4th Army. Taken by surprise by the attack, the commanders were confused. One can observe such a picture when thousands of commanders (starting from majors and chiefs and ending with junior commanders) and fighters took to flight. It is dangerous that this panic and desertion does not stop until recently, and the military leadership does not take decisive measures. The workers of the regional party committee, together with a group of border guards, tried to detain those fleeing from the front. On the highway near Ivatsevichi, we temporarily managed to stop this shameful flight [...] Therefore, not knowing the situation, having no connection with the military command, not counting on the combat

readiness of military units, we were forced to leave the city of Brest. The Regional Committee of the CP(b)B believes that it is necessary to take the

most urgent and decisive measures to restore order in

the 4th Army and strengthen the leadership of the 4th Army.

Secretary of the Brest Regional Committee of the CP(b)B. Tupitsyn" [15].

The document contains a resolution by I.V. Stalin - "vol. Malenkov" and G.K.

Zhukov's note: "The commander of the 4th Army was removed from

[131] work and put on trial. " The regiment commander, Colonel

Lopukhovsky, returned from vacation to Kossovo ahead of schedule - on June 20. F

firing practice allocated 203-mm shells. I clearly remember how at five o'clock in the morning the duty officer for the units that remained in winter quarters ran to our house (the regiment was in the camp) and reported: - Unknown

aircraft bombed the district ammunition depots near Bronna Góra, along the perimeter of the fence of the warehouses someone lit fires ! Having learned^[132]

that there was no connection with the headquarters of the 4th Army, the regiment commander ordered a motorcyclist to deliver a report to Kobrin. The message was delivered to the addressee, which was recorded by the chief of staff of the army. In connection with the air raid on artillery depots, Colonel Lopukhovsky announced an alarm to a few units in Kossovo, ordering them to immediately arm the "accomplices" called up on June 13 for training and to strengthen the security of warehouses with weapons, military equipment and "NZ".

You can imagine the position of the commander: what is it - an accidental raid or a war? There is no communication with the army headquarters and with the regiment in the camp, the warehouses are crammed with equipment and materiel, there are almost a double set of vehicles and tractors in the parks, and trained drivers and tractor operators are partly demobilized, partly sent to form other units in April and May. In the NZ warehouse there are 12 B-4 howitzers received from the 318th gap of the RGK. At the Kossovo-Polesskoye station, there were 6 more such guns under guard, not even unloaded from the railway platforms.

Just in case, the regiment commander gave the command to send the families of the commanding staff to the location of the regimental camp in Obuz-Lesna. Cars were delivered to pre-planned points in the city. A lorry approached our houses, where the families of the commanders of the 4th division and the command of the regiment lived. Only documents and personal belongings were allowed to be

taken with them - no more than one suitcase. And as always, in an unclear situation - an avalanche of rumors spread by enemy agents. In particular, just before the departure of the car from Morachovshchizna, the regiment commander was informed that 10 km north of Kossovo, residents observed a parachute landing. Colonel Lopukhovsky ordered one of the commanders to ride a bicycle in that direction to clarify the situation. But his wife clung to him, hung, roaring - do not tear off. Father, quickly

saying goodbye to us, he went on reconnaissance on the emk. We never got to see him again...

According to the stories of veterans, a combat alert was announced to the regiment at the training ground on the morning of June 22 during breakfast. The camp was quickly abandoned. Two columns immediately began to be pulled out: in one - artillery battalions, guns and tractors with tractor trailers. Each battery had four STZ NATI-3 tractors - two for guns and two with trailers for ammunition and the necessary accessories. Thus, in the column of artillery divisions, there were at least 48 tractors. In another column, the vehicles of the remaining units of the regiment were assembled. A limited supply of shells, designed only for practice shooting, was transported by the regiment's ammunition transport. Of course, all the work on setting up the camp went to waste - roads, rulers, nests for tents were distorted. The regiment commander, who arrived at the camp, announced to the assembled command staff that the war had begun (he was informed about this at 14:00 by the secretary

of the Kossovsky district party committee). The news was received calmly, there was no panic. And yet one of the officers lost consciousness. Communications delegates were on duty near the regimental headquarters. Extra drivers, tractor drivers and other specialists were sent to winter quarters in cars to reopen and withdraw equipment. After a couple of hours, the regiment was ready to move out, but the columns stood motionless until the evening. For some reason, the exit to the concentration area, determined by the cover plan, did not take place. Finally, from Colonel I. A. Dolgov (deputy chief of staff of the army), an order was received by telephone to concentrate the regiment by 20:00 on June 23 in the Bereza-Kartuzskaya area. Later, the order was confirmed, indicating that the regiment was subordinate to the commander of the 28th Rifle Corps. At the points of deployment of the units of the regiment throughout the day on June 22, activities were carried out on combat alert. The reopening of materiel and automotive equipment, the loading of ammunition and other property of the regiment were carried out under the guidance of the adjutant of the

regiment commander, Lieutenant V. V. Presnyakov. At 11:35 a.m., the city of Kossovo was bombed by eight Do-17 aircraft.

The sudden start of the war disrupted all plans, and, apparently, they did not have time to deploy a regiment of the second stage on the basis of the 120th gap. Besides

but most of the local residents called up for training on June 13, including some reserve commanders, fled home at the first bombardment. Due to the lack of drivers, when forming a column on the march to join the regiments in Ivatsevichi, everyone who knew at least a little how to handle a car and a tractor was put behind the wheel. Nevertheless, a significant part of the regiment's property and automotive equipment had to be left under guard on the spot.

Already at dusk on June 22, 5 cars with families from Kossovo and other points of deployment of the regiment drove up to the camp, which were brought by Lieutenant V.P. Odaryuk. The commanders said goodbye to their wives and children - many, as it turned out, forever. But the car with the families of officers of the 4th division, among whom was our family, never arrived at the camp. The fact is that cars with refugees were fired upon from aircraft several times. At the same time, the movement stopped, and everyone rushed into the ditches and away from the road. In one of the raids, our driver did not return to the road. Either he was wounded or killed, or he simply fled. So our car lagged behind the general column of families of the regiment. After waiting for some time, one of the women got behind the wheel, and we drove on, carried away by the flow of refugees. They didn't know the road to Lesnaya, so they didn't get to the camp. Soon the gas ran out and our car stopped. None of the passing cars stopped. We were rescued by the crew of the tank, which lagged behind its unit. The tankers gave us a whole bucket of gasoline, which we used to get to the old border. As it became known later, the convoy with families also safely reached some station. Further, the refugees were sent on trains into the interior of the country. Many families went to the place of the pre-war deployment of the regiment in

Dnepropetrovsk, the rest went to their relatives. The regiment from the camp began to advance at 22:00 on June 22 along the route Ivatsevichi - Kossovo station - Bereza. The division commanders with reconnaissance and signalmen were the first to start moving in vehicles. The main forces of the regiment advanced in two columns: wheeled vehicles along the Baranovichi-Ivatsevichi road, tractor-drawn guns along country roads (the highway that

now passes through Baranovichi did not exist in 1941). Tractors with heavy implements could move at a speed of no more than 4 km per hour. With

the regiment slowed down even more, and sometimes stopped altogether, as it turned out to be packed with cars and carts with families of military, party and Soviet workers, as well as scattered groups of military personnel. There was no mention of traffic regulation. German aerial reconnaissance certainly recorded the movement of columns of heavy artillery. And the divisions of the regiment, which did not have anti-aircraft weapons, were repeatedly subjected to unpunished bombing and shelling from the air. Enemy pilots acted insolently, as if they were at a training ground.

The situation was still unclear. There was no connection with the command of the 4th Army. The regiment commander with the deputy chief of staff of the regiment, senior lieutenant Lyashchenko, drove forward in his car - to the headquarters of the 28th rifle corps to receive a combat mission. Already beyond Ivatsevichi, the car came under fire and bombing. One of the bombs hit the commander's "emka" - only the wheels flew off, and the mangled gun that the commander took with him flopped next to him in a ditch. But all remained alive and unharmed. I had to return to Ivatsevichi by passing car and from there by truck to get to the headquarters of the corps. The regiment was confirmed the task of moving not to the area of its mission on combat alert in Rachki, but to the area of \u200b\u200bBereza.

Since further we will often have to refer to the declassified report of the commander of the 120th Gap, I will explain what caused the appearance of this document. After our troops withdrew to the line of the Berezina and the Dnieper, the command finally decided to figure out in what condition and with what weapons the remnants of the defeated units and formations left the border battles. A strict order followed, in addition to the usual report on the presence of personnel, artillery materiel and combat equipment, to urgently submit a report on what and for what reason was lost in battle and what was left on the territory occupied by the enemy. There are many reports in the archives on this subject. But for the most part they concerned the loss of small arms and vehicles. There were reports of the loss of pistols, telephones, gas masks, and even paper anti-chemical capes. Only occasionally can one come across a detailed report on the reasons for leaving weapons and military equipment on the territory captured by the enemy. Impression

such that some of these reports were simply withdrawn from the relevant cases, transferring them to special storage (this idea is suggested to researchers by numerous cases of changing the numbering of pages in cases down). The chief of

artillery of the front, Lieutenant-General N. A. Klich [133], at a personal meeting in the Bobruisk region with Colonel Lopukhovsky, ordered him to urgently and in detail report what and for what reason was lost in battle and what was left on the territory occupied by the enemy. Therefore, the report is built from this position. The combat [134] actions in which the regiment took part are mentioned in passing. —

The column formed in Kossovo, consisting of 20 tractors, 47 trailers, 16 of them with ammunition and 3 with chemical equipment, began advancing at 23:00 on June 22 in the direction of Kossovo station. She was supposed to connect with the regiment in the village of Goshchevo (11 km west of Ivatsevichi). At dawn on June 23, this column was subjected to repeated bombing and shelling. As a result, she did not go to the designated area, and information about her whereabouts was never received by the regimental headquarters. So the regiment was left without ammunition. It is strange that in the report of the commander of the 120th gap nothing is said about the reasons for leaving 12 B-4 howitzers at the points of deployment. "Left" - and all. Apparently, for the participants in the events, including the chief of artillery of the front, it was already clear that the plan for the mobilization deployment of artillery units (and not only them) was frustrated. Therefore, for 66 years, the documents of the artillery headquarters of the 4th Army were not declassified. It is now that historians and publicists are breaking spears, proving to each other why our troops were defeated in the very first battles. And for the participants in those distant events, everything was clear - the army was set up. They "set me up", regardless of the motives and circumstances, which at that time could only be thought of, but not named reasons ... They were silent, understanding what was happening.

But historians would like to figure out whether there were attempts to form artillery regiments and other units according to the deployment plan in the border areas a

what they ended up with.

The deployment of units of the second stage was to begin with the announcement of mobilization (or at a special signal). But the mobilization has not yet been announced, and the bombs are already exploding. Who was supposed to deal specifically with the formation of deployable units?

Commander of the regiment of the second stage? In the 120th gap, it was not possible to establish who was to lead the new regiment. The regiment commander was on vacation. Regimental Chief of Staff? But he was called to the academy for training. The assistant commander of the regiment, Captain M.V. Barybin, acted as commander of the regiment in the camp. The commanders of the 4th division, including those who were involved in the training of the drafted local residents, left with the regiment on alarm. Much could be clarified in this regard by the "Calculation of the allocation of personnel from the military units of the Western OVO for wartime." But on August 5, 1941, this most important mobilization document on 229 sheets was destroyed by burning, "as having lost — .

its force and not representing the need for its [135] further storage." Mobilization was announced when hostilities had already begun. Moreover, the first day of mobilization was ordered to be June 23, 1941. And the fault of the respective commanders in the field that the deployment in the armies of the first echelon of the front was disrupted, is not in this. Events developed too rapidly, no one could have imagined that German tanks would

be able to break through to a depth of 150–170 km in three days. During the fighting from June 22 to December 1, 1941, 75 B-4 howitzers were lost on the Western Front. Apparently, 12 howitzers that arrived in the 120th gap on the eve of the war were among them. It was not possible to take them out of the city of Kossovo, which soon ended up in the rear of the German troops. Among other reasons (for example, there was no order), there simply were not enough tractors for them (two tractors were required for each howitzer). At least one of the veterans in the Kossovo area saw an

abandoned tracked gun with a wrecked tractor. For comparison: in the first 20 days of the war on the Southwestern Front, in relatively more favorable conditions than on the Western Front, 48 203-mm B-4 howitzers out of 192 that were available there at the beginning of the war (25%), and of the available 1140 152 -mm guns of various types during the same time lost 175 (15%) [16]. Part of the howitzers captured by the Germans entered service with the German army under the name 20.3-st N.503 (g). By March 1944, on the Eastern Front of the Germans,

were completed from Soviet 203-mm concrete-piercing shells and German charges.

Here are 6 B-4 howitzers, located on railway platforms, sent by order of the regiment commander from the Kossovo-Polesskoye station to Ivatsevichi, could be taken out. But where? Only to Obuz-Lesnaya station. And there, according to Sandalov, *"formed in the district artillery camp (west of Baranavichy), the artillery regiments of the RGC, which had one tractor per division, according to the order received from the front headquarters' VPU, transported their guns in turn to the Slonim area."* So part of the 480 guns (which one is unknown) had already been taken away from the training ground near Baranovichi by the time the tanks of the 4th Panzer Division of the 24th Motorized Corps of the enemy entered there on June 26. Those that remained were attracted to support the units defending in the Baranovichi region [13]. Note: guns, but not

regiments! If attempts were made to deploy artillery regiments of the second stage in the covering armies, then the regiments being formed died in the encirclement and during the withdrawal. Because it was not possible to find traces of the appearance of new units that were armed with 152 and 203 mm caliber guns in the first two or three weeks as part of the Western Front in archival documents available to researchers. Except for one thing: on the basis of the 462nd cap of the 47th rifle corps, the 420th gap was formed, which was armed with 152-mm howitzers. By the way, it was possible to establish this only because the complaint of the political instructor was preserved in the archive, who, when transferred to the newly formed regiment, lost 200 rubles in salary [136].

Hypothetically, part of the guns, especially those that were not unloaded from the platforms, could try to take out by rail: along the main highway to Minsk, which was intercepted by the enemy on June 27, or along the single-track to Slutsk, which was captured on June 26. But this was difficult to accomplish under enemy air strikes and in the conditions of active operations by sabotage groups, which had the task of temporarily disabling the railway in order to disrupt the delivery of Russian reserves from the depths and the evacuation of weapons and equipment from the planned boilers.

In German sources (Rezun, as a rule, does not give footnotes) there is no information about the capture of an unusually large number of heavy Russian guns in the area of the city of Baranovichi. The city itself and the airfield were occupied on June 27 by units of the 4th Panzer Division. At the same time, the Germans noted that in continuous hand-to-hand fighting outside the city, they met with Soviet soldiers who were ready to blow themselves up with a hand grenade rather than surrender. Sandalov writes that when the remnants of the divisions defending Baranovichi and Slonim retreated through the wooded swampy terrain due to the lack of repair equipment, tractors and vehicles, as well as heavy guns, had to be destroyed. Only horse-drawn guns and part of the carts remained in the divisions.

So some of the 152-mm guns out of the 480 concentrated at Lesnaya, the Germans still managed to capture. It is known that a certain number of Soviet ML-20 152-mm howitzer guns were used by the Germans on all fronts until the very last day of the war. So, according to the testimony of a recognized

specialist in the artillery of the Red Army and the Wehrmacht, A. B. Shirokorad, on the Eastern Front, the Germans captured several hundred serviceable Soviet guns. Among them were many 152-mm guns of various types [137]. When and how many such guns they captured is unknown. In any case, the Germans found it expedient to start in February 1943 for them the mass production of a 15.2-cm high-explosive fragmentation grenade weighing 46 kg (in the Red Army, a regular projectile weighed about 41 kg) [17]. According to the American Army Guide to German Artillery Ammunition, for K.N.433 / 1 (g) and K.N. .8 kg and one concrete-piercing weighing 39.8 kg [18].

Let's return to the events of June 23. Memories of veterans of the 120th gap about the first combat encounter with the enemy are very contradictory. When comparing their stories with the general course of hostilities in the Brest direction and archival documents, the following picture emerges. The regiment, due to frequent stops during the bombing, was never able to advance to Bereza. By noon on June 23, it became known that a battle was going on there. Therefore, the columns of the divisions of the regiment were stopped. The advanced units on the bridge across the Grivda River (a tributary of the Shchara) fell under another

bombed and suffered casualties. Next, we will refer to the story of junior sergeant M.V. Loifer, who, as part of the top platoon squad of the headquarters battery of the regiment, managed to escape from the Brest Fortress. Near the village of Nekhachevo, 6 km southeast of the Kossovo-Polesskoe station, the detachment joined the regiment. Judging by the scheme he sketched at the same time, in June 1941, Germans tried to reach the highway at the .

the place [138] where it intersects with the railway Loifer saw Colonel Lopukhovsky with other commanders and firemen near the Zhegulyanka River. There, apparently, was the observation post of the first division. Ahead, to the right and to the left, in numerous and rather deep reclamation ditches (Loifer mistook them for trenches from the First World War), infantry was located. Artillery fired at suitable enemy columns.

Loifer considered that direct fire on the tanks and armored vehicles of the enemy was carried out by the guns of the regiment. But he was mistaken: if the first division fired, then from the closed firing positions occupied in the Ivatsevichi area. Later, in the report of the headquarters of the regiment, it was mentioned that several commanders were missing while repelling the attack of enemy tanks in the Ivatsevichi area. At some point (perhaps after a fire raid), Colonel Lopukhovsky and some infantry commander raised people in a counterattack, which was joined by the soldiers and commanders who were with him on the OP. It came to hand-to-hand combat. Loifer personally saw how the Germans raised the foreman Prokhod from the headquarters battery of the regiment on bayonets. Artillery fire for some time managed to delay the exit of enemy tanks onto the highway from the Bronna Góra station. The Germans failed to penetrate this time into the forest north of the highway and go to the rear of the units of the 205th motorized division.

However, the depleted units of the 28th Rifle Corps and the 14th Mechanized Corps could not withstand the attacks, supported by a remnants of the 30th Tank [139]. large number. At this time, the Aviation, and the division began to retreat to Byten to prepare and occupy the Kossovo-Ivatsevichi line. At this turn, the remnants of the 30th tank and 205th motorized divisions of the 14th mechanized corps were to gain a foothold. However, in the morning, enemy tanks shot down our units and threw them back to the eastern bank of the Shchara. Here the command of the 4th Army tried, using this natural obstacle,

organize defenses and delay the further advance of the enemy. By 12 o'clock on June 24, it was planned to transfer the 55th Rifle Division from Slutsk by front-line transport to replace the remnants of the 205th Rifle Division. The 143rd Rifle Division of the 47th Rifle Corps was to deploy to the north, near Lesnaya.

When withdrawing on the Shchara River, the 120th Gap joined the remnants of the 205th MD at the Kossovo-Polesskoye station. The regiment took up firing positions 5 km east of Domanovo, north of the highway to Slutsk, with the task of supporting the units that retreated to the eastern bank of the river with fire. As soon as they took up firing positions, they immediately fired ammunition. Cars approached, the elder asked only - what caliber, 203 millimeters? Shells and charges were unloaded on the ground in the indicated place - so much so that later, when they had to retreat again, they could not be taken out. Perhaps these were shells from the surviving part of

the tractor column with ammunition that left Kossovo. The episode that the veterans were talking about belongs to this moment. Some general blocked the road with his ZIS vehicle and ordered the gunners to take up firing positions right next to the road and immediately open fire. It was General I. I. Khabarov, Assistant Commander of the District Troops for Military Educational Institutions. According to Pavlov, he sent Khabarov with the strictest order, if necessary, to shoot any number of people, but to stop the retreat of the 4th Army and ensure that the army headquarters took control of the troops. The batteries deployed north and south of the highway. To stop the panicked groups of servicemen, the guns fired several shots. By order of the general, the gunners placed a type "B" repair flyer across the highway to delay the vehicles, and set up a barrier. Commanders with weapons in their hands stopped the fleeing. Immediately there was a traffic jam on the road. Enemy planes flew in, began to bomb, and the barrier was simply crushed. Operational report No. 1 of the headquarters of the 4th Army, first sent only on June 24, said that sometimes the flight could not be stopped even with the use of weapons.

In the Slutsk direction, the remnants of the 205th motorized division on the Shchara river were to be replaced by a fresh 55th rifle division. However, its units did not reach the designated line.

The fact is that the division did not have time to fully mobilize, as well as to accept vehicles from civilian organizations. The vehicles allocated by the front for the rapid transfer of the 55th division from Slutsk were not enough. By 11 p.m. on June 23, units of two regiments of the division were unloaded from vehicles 15 km from the Shchara River near the village of Sinyavka (on Varshavskoe highway, 34 km southeast of Baranovichi), with the expectation that they would reach the river overnight and occupy the indicated line. The artillery of the division and infantry regiments on horseback followed in a separate column. The vehicles returned to transfer the rest of the units of these regiments on a second flight directly to Shchara. The next flight planned to transfer the third regiment of this division.

Perhaps here the fact that the Shchara River crosses the Warsaw highway twice played a cruel joke on the command of the division. The regiments were unloaded 72 km from Slutsk and 15 km from the eastern side of the river bend. But from Sinyavka to the appointed milestone on the western side of the river bend, there was still 65 km along the highway! In addition, fuel was running low in the front-line motor transport regiment, and gasoline supplies in Slutsk were exhausted. Apparently, at that time, 11 vehicles from the 120th Gap were sent to Baranovichi for fuel, which fell under the bombing, were smashed and burned down. As a result, not a single regiment reached the line indicated by the division at the appointed time. The weak detachments of the 205th MD and the 14th mechanized corps, which did not have anti-tank weapons, could not hold the water line that was advantageous for defense.

In connection with the obvious threat of an enemy breakthrough, the 120th Gap began a retreat in the direction of Milovidy (26 km south of Baranovichi). Lieutenant D. A. Golovanovsky

says: *"The battery turned around near the highway. No contact was made to the firing position for several hours. Radio station 6-PK was silent. On the highway, I stopped the emka and turned to the major general who was sitting in it. The following dialogue took place: — What shall we do? - What part? - Battery of the 120th gap. — Caliber? - 203 mm.*

- *Remove immediately and go to Baranovichi. The last company is removed from me, which is near the bridge on the river Shchara. We took 20 shots for each trailer and moved along the highway to the east. After some time, Lieutenant Gingold conveyed the order of Colonel Lopukhovsky - the battery to cover the retreat of the regiment. On*

the third day of the war, the troops of the 4th Army retreated to the Shchara line to a depth of 170–200 km. And on the border in the deep German rear in the region of Brest, Semyatichi and Malorita, there were still battles. The 45th Infantry Division could not break the resistance of the defenders of the Brest Fortress. The use of heavy-duty 600-mm Karl siege mortars did not help either. At 6 pm on June 24, the command of the 45th Infantry Division hastened to report the surrender of the fortress. But at night the fighting in the fortress resumed and did not subside until the morning. In order to finally crush the last Soviet center of resistance in the Eastern Fort of the fortress, on June 29, Luftwaffe aircraft dropped fifteen 500-kg bombs on this target. But they did not undermine the determination of the defenders of the fort. On the same day, Yu-87 dropped an 1800-kg bomb on the fort, after which 390 of its inhabitants, soldiers, women and children, in good physical shape and with an unbroken spirit, went out to surrender. They were the last of more than 7,000 prisoners taken in the fortress.

Since June 30, there was no longer any organized resistance in the fortress, but there were small groups of soldiers and loners who either waged a guerrilla war, or simply tried to hide and wait for their approach. After all, no one expected that they would come only after 3 years. Major Gavrilov, having given the last battle, was wounded and taken prisoner only on July 23 - a month after the start of the assault on the fortress. For the last few days, he ate compound feed, which he found in the stable. His resilience amazed even his enemies. The last pillboxes of the Soviet border fortifications in the offensive zone of Army Group Center also fell on June 29.

F. Halder wrote in his military diary on June 25: *"It is confirmed that the 45th Infantry Division, apparently, suffered heavy losses in the Brest-Litovsk region in vain"* and immediately gave instructions to find out the effectiveness of the fire of the Karl installations in the Brest region, as well as to investigate the actions of the division in the Brest region [19]. Already after the cessation of fighting, the appointed commission assessed the use of mortars as very successful. Shooting accuracy was

high. At least 2 shells destroyed large areas of very heavily built structures. The craters in the courtyard of the citadel reached 15 meters wide and 5 meters deep in solid ground (two shells apparently did not explode). The shells fired by the battery undoubtedly had a strong physical and demoralizing effect on the defenders. Separate equipment failures did not affect this assessment, because there were very few of them for the first practical use of such complex installations [20].

The Germans captured 7,000 prisoners near Brest, including 100 officers, and took large trophies from the fortress: more than 15,000 rifles, 1,300 machine guns, 100 guns, 36 tanks and other tracked vehicles. However, the 45th Infantry Division suffered significant losses. Sandalov even wrote in his book that it was broken at the same time. According to a report dated July 8, 1941, by June 30, 1941, the division lost 453 people killed and missing, including: officers - 32, non-commissioned officers and privates - 421; 668 people were wounded (of which 31 were officers), and a total of 1121 people. The losses are heavy, but this is by German standards. Their scale can be judged by the following fact: for the period from June 22 to June 30 inclusive, only 8,886 Germans were killed and 29,494 wounded on the Eastern Front [19]. Thus, the irretrievable losses of the 45th division amounted to more than 5% of the German losses in the East the highest losses of any German division [140] during the first week of battles. Therefore, the German command had to conduct a special investigation on this matter. But to say that the division was defeated is an obvious stretch, probably made by Sandalov under pressure

from the editors. By the end of June 24, a kind of "layer cake" had formed southwest of Baranovichi. The detachments of the defeated Soviet units, remaining behind enemy lines, did not lay down their arms, continuing to attack his marching and rear columns. One of these detachments from the 22nd Panzer Division north of Ruzhana attacked a convoy of the 47th German Corps, moving along the highway to Slonim. As part of this column, with a group of vehicles from his headquarters, the commander of the 2nd tank group, Colonel General Guderian, followed. The motorcade was destroyed, several German officers were killed, and one was captured along with a staff car. Guderian himself miraculously escaped death. The seized car contained a se

them a plan of further actions of the tank group. During the interrogation, the captured officer rather colorfully described how the cowardly Guderian fled from our tanks into the forest [13]. Unfortunately, the Soviet tankers could not hold the road for a long time and were forced to continue their retreat.

Guderian recalled this episode somewhat differently: *"The driver sitting next to me received the order: "Full throttle", and we flew past the astonished Russians: stunned by such an unexpected meeting, they did not even have time to open fire. The Russians must have recognized me, since their press later reported my death; so I was asked to refute it via the German radio."*[12] Guderian had every reason to say so, because the 22nd Panzer Division was

created on the basis of the Krivoshein tank brigade, with which they took a joint parade with the Germans in Brest in September 1939. On this occasion, L. M. Sandalov did not miss the opportunity to be ironic - just think, a figure ... Although he probably heard about the parade, he did not want to write about it (or he was not allowed to).

After an unsuccessful attempt by the remnants of the 22nd Panzer Division with a detachment of Colonel Ostashenko to break through to their own in the direction of Slonim, they turned towards Kossovo. At seven o'clock in the evening, by joint actions of Soviet troops, who were in this area behind enemy lines (up to six thousand people with several tanks), a German motorized battalion with five tanks was driven out of Kossovo. The command of Army Group Center was worried that the formations of Guderian's 2nd Panzer Group were advancing much more slowly than the 3rd Panzer Group. The 18th Panzer Division of his left-flank 47th Lemelsen Motorized Corps captured Pruzhany on June 23 and, before dark, acting together with units of the 17th Panzer Division, reached Ruzhany on the road to Slonim. The Russians continuously counterattacked, striking at the vanguard and flanks of Guderian's columns. Undoubted evidence of the fierceness of this struggle was the report of the 2nd tank group on the destruction of 220 Russian tanks during the first two days of fighting, half of which was accounted for by one 18-

th tank regiment.

In addition, by the evening of June 23, aerial reconnaissance reported that the road from Bialystok through Volkovysk to the road to Slonim was *"clogged with enemy columns of all types of troops heading east."* Constantly forced to halt by supply problems and poor road conditions on the second tank route, Guderian now faced a growing threat on his left flank at Slonim before he could reach this key town.[21] In connection with maneuvering operations in swampy areas, the tank units quickly used up their available fuel supplies. In addition, the heavy tanker trucks of the 18th Panzer Division were unable to cross the Western Bug, as the entrances to the temporary bridges turned into a swamp. Guderian, in order to maintain the pace of the offensive, had to resort to the transfer of gasoline by aircraft. The command of Army Group Center, fearing that the Russians would try to slip out of the Bialystok pocket that was being prepared by them, took all measures to speed up the capture of Slonim, this junction of roads with important bridges across the GTzara, before the retreating units approached it.

In the Slonim direction, by the end of June 24, the enemy did not manage to cross the GTsara River on the move in the sectors of the 155th and 121st rifle divisions. South-west of Baranovichi, units of the 143rd Infantry Division went on the defensive. These formations of the 47th Rifle Corps were advanced from the depths and included in the 4th Army. But the corps administration and the commander himself, General Povetkin, did not appear in the combat area of \u200b\u200bits divisions near Baranovichi. Sandalov claims that the actions of the troops were led by General Khabarov. But this is not true. On June 26, the commander of the 121st Rifle Division, Major General Zykov, took the initiative and gave the order:

"In view of the lack of centralized control of 155u 143 and 121th rifle divisions and the garrison of the city of BARANOVICHI to coordinate the actions indicated by the Headquarters, from this date, from 11:00, adopted the Provisional Order. command [so in the text. —L.L.] upon himself with an immediate report to .

the Military Council of the Front [...]" [141] Zykov set tasks for the divisions for defense. Thanks to the measures taken, the enemy was detained for two days. In this regard, Guderian was forced to turn part of the forces of the 4th Panzer Division

Baranovich to help the formations of their 47th motorized corps [24]. On June 28, the thinned units of these three divisions still continued to resist the enemy east of Nesvizh.

The sudden invasion of the enemy led to the disruption of many plans of the Soviet command. Among other things, the plans for the deployment of reconnaissance forces and means, which were developed on paper to the details, were also violated. In detail - by the hour - the procedure for mobilizing intelligence agencies, replenishing them with personnel and weapons is described. The procedure for the collection and additional training of agents of the operations centers was determined with the beginning of mobilization for reconnaissance behind enemy lines, applications were made to provide them with foreign currency for three months of the war (German marks, as well as Polish zlotys, at least 300 per month per person), civilian clothing, and as well as military uniforms and German-style weapons. It was also planned to create partisan detachments for operations both on our [142] territory and on enemy territory.

Alas, with the outbreak of hostilities, the need for reconnaissance seemed to be forgotten. Information about the enemy was obtained only in battle. But it was impossible to transfer them to a higher headquarters in the absence of communication. To all requests from the General Staff for ground intelligence data, the head of the front intelligence department replied: "I repeat, for two days the front headquarters has no communication with the army headquarters, and we are not receiving any data from ground intelligence. Delegates have been sent to the intelligence departments of the armies. Information about the actions of enemy units, their movement in the early days, the front headquarters received mainly only from aviation. But even here, not everything was debugged: until July 12, the radio center did not record the received reports and cipher messages, some of them were reported with a delay of several to 10 days. There were even delays in the transmission of lightning ciphers.

A typical example: reconnaissance report No. 7 at 22:00 on 25.6.41 with valuable data on the movement of motorized enemy units was reported to the addressee only on 29.6.41. In it, in particular, it was reported: "[...] 19.20 25.6.

The movement

*of convoys: [...] 2nd - the center of Milovidy
- 4-5 km long, 3rd - head over the bridge over the
river. Gryvda, tail - Art. Kosuv [Art. Kossovo-Polessky. — L. L.],*

4th - from Art. Kosuv to the point Kosuv[g. Kossovo. - L. L.], 5th - bridge over the river. Zhegulianka, tail - Art. Gura [Art. Bronna Gora. - L. L.].

6th - Ruzhany - Slonim - 4-5 km [...] " [143] In

addition, a check of the radio center of the front headquarters showed that all radio stations from the beginning of hostilities worked without changing call signs, which undoubtedly facilitated the enemy's radio reconnaissance operations.

In the military operations log of the 4th Army for June 24, it was noted that during the fighting *"the 120th gap is almost not used due to the transience of the fighting."* Indeed, before the regiment has time to take up firing positions, it is necessary to again stretch the column to retreat to another line. There was no time to even feed the staff. As in previous days, the rear guards were thrown from cars, or even simply left on the road what they managed to capture in warehouses in Kossovo - boxes with canned food, biscuits and butter. As a result, many Red Army soldiers developed diarrhea. Fortunately, the bushes were nearby, and the tractors in the column could not reach speeds of more than 3 km per hour. But not everyone returned to the road. Among the stragglers and junior commanders, later listed as missing, there were many called up in 1940 in the western regions of Ukraine and Belarus. For some reason, they were in no hurry to die for their newly found Motherland. It is no coincidence that following the order to remove persons of German nationality from the active army (for their subsequent sending to construction units, while exceptions were allowed under the responsibility of commanders), a similar order was followed regarding Estonians, Latvians, Lithuanians, as well as natives of the western regions of Belarus and [144] Requests rained down born in from parts and connections. Ukraine had to explain that those the western regions of Belarus and Ukraine, but who lived on the territory of the USSR until 1939, are not subject to withdrawal. But the Germans have already seized all, without exception. Then, in the units, they began to look for and seize the dispossessed and repressed.

During the withdrawal of the regiment, which was operationally subordinate to the 4th Army, everyone who was not lazy tried to command. Some senior commanders, having a poor idea of the purpose of the regiment of high power and its combat capabilities, wanted to use 203-mm [145] howitzers almost as anti-tank weapons.

— . In connection with

this was a lot of conflicting orders. There were also attempts to use the regiment's artillerymen as infantry. From the report of the commander of the 120th GAP: *"On June 24, 1941, at about 11:00, on behalf of the commander of the 4th Army, Colonel Comrade Nosovsky [commissar of the 14th mechanized corps I. V. Nosovsky died in these battles - L. L.] ordered the formation of a 120 GAP battalion from artillerymen to organize defense at the turn of the west. Art. Lyakhovichi 10–12 km. The battalion was formed in the composition of 350-400 people, led by the command staff of the regiment, but according to the report to the army commander, this order was [146]."*

Much later, when we sorted out the situation, followed by a strict order:

"... stop using artillerymen (units and subunits) for other than their intended purpose, pulling apart command personnel and replenishing subunits of other military branches at the expense of artillery units. Return those who have already been sent to their units. In

Milovidy, from 04:00 on June 24, the command post of the 4th Army was deployed. From here, through front-line signalmen in Lesnoy, they finally managed to contact the front headquarters. The second echelon of the army headquarters was concentrated in Sinyavka. When it became clear that units of the 55th Rifle Division would not be able to reach Shchara by 2 p.m., the army commander ordered the division commander to deploy one regiment north of Milovida, and the other to the south.

He even took part in the reconnaissance himself. A very simple and understandable decision for subordinates: to this regiment - to the right of the highway, to the other - to the left. The third rifle regiment was just approaching Sinyavka. He still did not have time to advance to Milovidy to make up the second echelon of the division. Therefore, he received an order to turn around 30 km to the east, at the Rusinovichi-Telminovichi line, 6 km wide, using the railway bed for defense. Apparently, therefore, they decided to create a depth of defense at the expense of a battalion formed from artillerymen
gap

The desire of the commander is understandable - to create, as in Shchara, a solid front. But it was already possible to understand that the enemy tank units were advancing along the roads. And to the south of the highway there is a swampy area, continuous reclamation ditches and the Myshanka River. Bypassing the positions of the 55th Rifle Division from the south was impossible. The solution was:

to concentrate the main defense efforts along the highway, placing regiments at the back of each other's heads, firmly saddle the Warsaw highway. Hastily organizing the defense, the army command moved to Sinyavka.

By 2 pm on June 24, the advanced units of the 24th MK of the enemy started a battle with the units of the 55th SD, which had hastily taken up the defense, reinforced by the tanks of the detachment of Colonel S. I. Bogdanov. Divisions of the 120th gap fired at suitable enemy columns. The wired communication of the divisions with the observation posts was constantly out of order. Radio communication was unstable: the air was packed with German commands and provocative messages.

The first enemy attack was repulsed. But, unfortunately, in the 55th Infantry Division there was only one ammunition load, it could not hold out for a long time. In addition, it remained unclear whether the artillery of the division and regiments had time to approach the line of defense. The Germans called in aviation, which subjected the positions of infantry and artillery to heavy bombing. The unfired fighters faltered, and the division's defense at the junction of two regiments was broken through. Its battle formation was divided into two parts, one was thrown back from the Warsaw highway to the north, the other began to retreat in a southeast direction - to Polissya.

By 6 p.m., units of the 55th Rifle Division had withdrawn beyond Shchara (26 km from Milovida). According to German data, the Russian defense line on the Shchara River was overcome on June 24 by the forces of the 2nd Tank Battalion of the 3rd Tank Division, which broke through the enemy positions in Milovidy. Russian counterattacks were repelled, while 33 light tanks were destroyed, and the division began to develop an offensive against Slutsk. But the biggest problems were in forcing rivers with swampy banks. The bridges on these rivers were mostly wooden, and the Russians successfully burned them before the Germans could capture them [22].

When the mass withdrawal of the infantry began, the commander of the 120th Gap gave the order to withdraw the regiment across the river in the direction of Sinyavka. With the unorganized withdrawal of our troops, the actions of saboteurs contributed to the emergence of confusion and panic. Sometimes you can hear the opinion that the data on the widespread use by the Germans of sabotage detachments and groups, whose personnel were dressed in Soviet uniforms and used our equipment and weapons, are greatly exaggerated.

contrary to established facts. In this regard, there was an instruction to the units of the Brandenburg regiment. It is known that the Wehrmacht tank groups were assigned at least one company of this regiment consisting of: officers - 2, non-commissioned officers and privates - 220. For the purpose of disguise, they were called "security", and the regiment itself appeared in German documents as a training one. The order on the combat use of companies describes in detail the order of subordination, interaction with advanced units, mutual identification and mutual assistance, identification

marks, etc. In particular: *"4. Combat use: [...] Based on experience, their combat use as part of forward detachments is especially promising. Military commanders, at whose disposal special forces will be allocated, must be carefully instructed about the tasks and methods of*

action of the "security company". [...] Password "Wecklabruck" [for the purpose of mutual identification. - L.L.][...] should be brought to the forward detachments of

the troops only with the issuance of an order to attack. [...] The first vehicles captured from the enemy, especially reconnaissance armored vehicles and the like, weapons and ammunition, equipment must be immediately transferred to the special groups of the "security company", since they are more necessary

for them to perform specific tasks[...]" [147] Two veterans of the 120th Gap independently said that at some point the regiment commander personally shot a saboteur in a Soviet uniform with the rank of major who was trying to send the regiment's column along the wrong route. During the retreat, the regiment's column soon ran into a bridge across the Shchara River, destroyed the day before by enemy aircraft. Sappers hastily restored the destroyed span and began to let vehicles through. Since the bridge could not support the weight of a tractor with a heavy implement on a trailer (howitzer weight 15 tons), the tractor column stopped. Senior Lieutenant N.V.

Friesen ordered the battery guns located at the tail of the column to be removed

Scouts were sent up and downstream to find fords and places suitable for the crossing of heavy guns.

By the evening of June 24, enemy tanks overtook the convoy, panic rose on the highway. Commissar Rusakov ordered "forward"! But the very first gun broke through the weak flooring and fell into the river. The movement stalled. The guns at the tail of the column opened fire with direct fire. According to some veterans, several hits were noted, as a result of which the towers of the tanks flew off! But this could not last long: the heavy, clumsy howitzers of the First World War were not adapted to fight tanks - they managed to fire 1-2 shots. In a short battle, the guns that were at the tail of the column were broken, and the crews under the fire of tanks fled on both sides of the highway. Tractors and cars were burning on the highway, the wounded and the dead were falling. Junior Sergeant Opanasenko said that he, with his gun and a tractor with two tractor carts on a trailer, managed to turn off the highway and through the fences between roadside houses left the highway. He overtook the regiment somewhere near Bobruisk. The scouts managed to find a crossing in the

Lyakhovichi area (6–7 km north of the highway). Senior Lieutenant Friesen led the surviving guns and tractors there. The Germans tried to pursue the column. At the same time, the artillerymen managed to knock out three tanks. One of them - a shot from a damaged gun, which then had to be left, the rest - bundles of grenades. The next day, Friesen's column joined the regiment. In total, they brought out 3 howitzers, 12 tractors with trailers and dozens of vehicles with military equipment. For the salvation of materiel and the self-control and courage shown at the same time (he was wounded in the leg in battle), N.V. Friesen was the first in the regiment to be presented with a government award.

The gunners who crossed the river, having only one rifle and four light machine guns, held back the advance of the enemy infantry throughout the night. Subsequently, these people, who covered the further withdrawal of the regiment, did not return to the unit. According to the report of the regiment commander, from 11:00

on June 24 to 06:00 on June 25, 1941, 7 203-mm guns, 9 tractors with 14 trailers and 12

cars [\[148\]](#).

By the end of June 24, Moscow finally realized that it was not possible to seize the initiative from the enemy, it was necessary to organize defense in depth - on the Dnieper. On June 25, the Headquarters decided to withdraw troops to the line of the Western Dvina and to the line of the old fortified areas. However, this decision was too late. Tank formations of Hoth and Guderian were rapidly advancing in converging directions towards Minsk, the threat of encirclement loomed over the 3rd and 10th armies. Based on the report of Marshal B. M. Shaposhnikov, who was at the headquarters of the Western Front, the Headquarters allowed the front troops to be withdrawn to the line of the old fortified areas. At 03:47 on June 25, the Headquarters of the Western Front received a cipher

from the Headquarters about the withdrawal: *"Evacuate Bialystok, withdraw the 10th and 3rd armies under cover of darkness to the Lida, Slonim, Pinsk area, covering the retreat with good rearguard units. Withdrawal to conduct a swift march day and night. Withdraw two divisions stationed in the UR from the Minsk region to the north to the Molodechno region, and place the most battered units from the retreating troops in*

the region of the Minsk UR. ... Tell Pavlov - he will be responsible for the exact execution of the Headquarters

directive. From the

"... it will be done - our nights here are very short ..." On the headquarters of the front they answered: [\[149\]](#) ..

same day, the Military Council of the front issued a directive to the troops for a general withdrawal. But permission to withdraw was clearly too late. By the end of June 25, formations of the 2nd and 3rd tank groups of the enemy advanced 200 km deep into Soviet territory (the average rate of advance was about 50 km per day). Having completed the bilateral coverage of the main forces of the Western Front, on June 28 they joined in the Minsk region, surrounding 26 divisions of the 3rd, 10th and partially 13th armies. The encircled troops, deprived of centralized control and communication with the front command, continued to fight, pinning down about 25 enemy divisions with their actions. In late June and early July, some units managed to break out of encirclement and join with their troops on the Berezina and in the interfluvium of the Berezina and the Dnieper. The scattered groups of troops remaining near Novogrudok continued fighting until 8

July.

At this time, the remnants of the formations of the 4th Army, delaying the enemy for some time on the Shchara line and the railway line,

continued to retreat to Slutsk. In the description of the hostilities, our authors describe how they held back the enemy's advance on the Slutsk Highway by fighting at intermediate lines, by counterattacks. They even give the corresponding order numbers with the assignment of tasks. But our infantry was never able to break away from the pursuing enemy units and prepare a sufficiently strong defense. This conclusion can be drawn by comparing the documents of both parties. The enemy's 3rd Panzer Division continued the offensive with the forces of three combat groups, which, when pursuing the retreating Russian troops, acted as marching columns. As an example, it gives the

composition and formation of the 1st battle group (starting from the head): tank company, motorized company (from the reconnaissance battalion), artillery battery, motorized infantry company, tank battalion (without one company), anti-tank (self-propelled) company, headquarters of a tank regiment, headquarters of a tank brigade, sapper company, artillery division (without one battery), mortar platoon, anti-aircraft battery (91st regiment), anti-aircraft battery (59th regiment). The composition of the groups changed depending on the situation, and new commanders constantly had to get used to new troops. Our retreating troops marched day and

night under continuous bombardment and shelling from the air. The entire burden of fighting to contain the advancing enemy fell on the improvised motorized detachments of the 14th mechanized corps. Due to the small number of their actions were limited to the creation of barriers on the routes of movement of German tanks and periodic shelling of columns. Refugees also aspired to the old border. Everyone believed that the line of the old fortified areas would finally be able to stop the Germans. The Germans seriously planned to storm the Stalin Line. They did not know that the fortified areas were disarmed.

At the turn of Timkovichi, Semezhevo, Kr. The settlement of the disarmed Slutsk fortified area up to 30 km wide was defended by foot units of the mechanized corps, led by Major General S. I. Oborin. By the morning of June 25, units of the 120th Gap also approached here, which concentrated in the area of the frontier post on the line of the old Soviet border. The units of the regiment occupied the positions indicated by them on the eastern bank of the Moroch River. In the depths of the fire

positions stood 3 remaining howitzers. The task was one - to stop the German tanks. At the collection points organized by the border guards, many wounded accumulated. They were sent in vehicles carrying ammunition. 20 vehicles were taken from the regiment for the evacuation of the wounded.

At about 16:00, the regiment received an order from the commander of the 4th Army to retreat 20 km beyond Slutsk along the highway to Bobruisk, where to enter the disposal of the head of the Slutsk UR. To communicate with him, the deputy commander of the regiment, captain Barybin, was sent forward, who did not find the head of the UR. The chief of staff of the Slutsk UR, who met with the regiment commander, advised him to withdraw the regiment's vehicles and the remaining 3 guns with trailers to the area [150] of — .

Bobruisk so as not to block the road. As the enemy approached, the defending units were bombed. After the artillery preparation of the enemy's 24th MK, at about 8:00 on June 26, they broke through the defenses and began to develop an offensive along the highway to Slutsk. In this battle, the commander of the 14th mechanized corps, General Oborin, was seriously wounded and evacuated to the rear. Colonel I. V. Tutarinov took command of the remnants of the corps. By 8 o'clock in the morning, German tanks broke through to Gulevichi (5 km northeast of Semezhovo), where the headquarters of the 4th Army arrived on the night of June 26. The personnel of the field administration of the army suffered losses and escaped death only thanks to the heroic actions of the 30th motorized rifle regiment, which managed to stop the enemy on the outskirts of Slutsk at the Lyadno-Malyshevichi line. The small forces of the Soviet troops at this turn were able to delay the German 3rd Panzer Division for only a few hours. At 15 o'clock, German tanks, after a strong air and artillery raid, were able to overcome

this line, which was not equipped in terms of engineering. From June 25, the commander of the 28th Rifle Corps organized defense along the eastern bank of the Sluch River, south of the Varshavskoe Highway. From the military personnel of various units, who were retreating to the east, detained at the Slutsk checkpoint, a consolidated battalion consisting of four companies was formed, which was transferred to the command of the commander of the 14th mechanized corps. Of the artillery in th

anti-tank guns, in the mobile reserve of the corps commander - two tanks and an armored car.

Considering that it would not be possible to hold out for a long time on the line of the Sluch River, the commander of the 4th Army decided to withdraw all detachments of the 28th Rifle Corps to a larger water barrier - the Ptich River (a tributary of the Pripjat) 60-70 km to the east in order to prepare rear line. Fighting in Slutsk continued for some time [151], but on June 27 the city was abandoned.

Leaving Slutsk, scattered detachments of the 14th mechanized corps, during the withdrawal, in order to deter the enemy, widely used roadblocks, adapting even out-of-service vehicles and tanks for this. To cover them, small groups with small arms were left, sometimes reinforced with separate anti-tank guns. The remnants of the 14th Mechanized Corps and other units crossed the Berezina during June 28 and 29. At dawn on June 27, units of the 3rd Panzer

Division of the enemy, bypassing the pockets of resistance of the Soviet troops defending north of Slutsk, reached the Warsaw highway and rushed in the direction of the city of Starye Dorogi. The headquarters of the 4th Army, which was located there, under the fire of German tanks, managed to retreat across the Ptich River in vehicles. There was nothing to blow up the bridge across the river, they simply doused it with

gasoline and set it on fire. The German tanks that appeared at about 18:00 rushed over the burning bridge and easily knocked down detachments of the 28th Rifle Corps, which did not have anti-tank weapons, from their positions. And yet, according to German data, only three tanks of the advanced group of the 3rd TD managed to slip through the burning bridge at the last moment before it collapsed, and the offensive stopped again. When the commander of a tank brigade and some soldiers from his entourage approached the bridge, the next tank company, which was delayed for some reason, mistook them for Russians and opened fire. The brigade commander was wounded and lost his arm. This accident could only happen under conditions where everyone

expected that the enemy could appear from anywhere at any moment. In the end, the small river Ptich was crossed by a very difficult detour, wh

wheeled vehicles were to be towed by tracked vehicles.

On June 26, Stalin urgently recalled Zhukov from the South-Western Front. The next day at 10:05, Zhukov transmitted the order of the Headquarters of the High Command to the Chief of Staff of the Western Front, General V.E. Klimovskikh, via BODO:

Zhukov. Your task:

First. It is urgent to find all the units, contact the commanders and explain to them the situation, the position of the enemy and the position of their units, and describe in particular detail the places where the enemy's advanced mechanical units slipped through. Indicate where our fuel, ammunition and food bases remained, so that from these bases the units supply themselves with everything

necessary for the battle. Set the units the task of whether to fight or concentrate in the forest areas, in the latter case, along which roads and in what grouping.

Second. Find out which units need to be supplied with fuel and ammunition by aircraft. In order not to abandon expensive equipment, especially heavy tanks and heavy artillery. Third.

The remaining troops should be withdrawn in three directions:

- through Dokshitsy and Polotsk, gathering them behind the Lepel and Polotsk URs:

- direction Minsk, collect parts beyond the Minsk UR; - the third direction - Glusk forests and Bobruisk. Fourth.

Keep in mind that the first mechanized echelon of the enemy has broken away very far from its infantry, this is now the weakness of the enemy, both the detached echelon and the infantry itself, moving without tanks. If only commanders subordinate to you can take over units, especially tank units, you can deliver a devastating blow both to defeat the first echelon and to defeat infantry moving without tanks. If possible, organize a powerful strike against the rear of the first enemy mechanized echelon moving towards Minsk and Bobruisk. After that, you can successfully turn against the infantry. [...] Especially great success will be obtained if you manage to organize a night attack on the mechanical units. Fifth. Withdraw the cavalry to the Pinsk forests and, relying on Pinsk, Luninets, launch the most daring and extensive attacks on the rear of the units and

the very parts of the enemy. Separate small groups of cavalry, under the command of loyal and brave middle commanders, place on all roads. [8]

However, the situation on the Western Front continued to remain unclear. And at 2 am on June 28, Zhukov again summoned the Klimovskys for talks on a direct matter: **At the Zhukov apparatus.** Report what is

*known about the 3rd, 10th and 4th armies, in whose hands is Minsk, where is the enemy? **Klimovskikh.** Minsk is still ours. A*

message has been received: troops have been landed in the area of Minsk and Smolevichi. Through the efforts of the 44th Rifle Corps, the landing force was liquidated in the Minsk region.

Enemy aircraft bombed the Borisov-Orsha road for almost the entire day. There are damages at stations and hauls. It was not possible to establish radio contact with the 3rd Army. The enemy,

according to the latest data, was in front of the UR.

Baranovich, Bobruisk, Pukhovichi were ours until the evening.

Zhukov. Where are Kulik, Boldin, Korobkov? Where is the mechanized corps, the cavalry corps? **Klimovskikh.** There are no messages from Kulik and Boldin. We contacted Korobkov, he is at the

command post east of Bobruisk. The connection of Khatskilevich was pulled up to Baranovichi - to the Stolbtsy [152].

Zhukov. When the connections of Khatskilevich and Ahlyustina?

Klimovskikh. At these points, they began to focus on the outcome of the 26th. Corresponding commissar Svetlitsyn went to see them yesterday at about 10:00. Tomorrow we are sending paratroopers with the task of conveying orders to

*Kuznetsov and Golubev **Zhukov.** Do you know that the 21st Rifle Corps entered the Molodechno-Vileika area in good condition?*

Klimovskikh. The 021st Rifle Corps had information that he planned a withdrawal in the direction of Molodechno, but this information was not confirmed.

Zhukov. Where is the

*heavy artillery? **Klimovskikh.** Most of the heavy artillery is in our hands. We have no data on the 375th and 120th howitzer artillery shelves.*

Zhukov. Where are the cavalry, 13th, 14th, and 17th mechanized corps?

Klimovskikh. 13th mechanized corps - in Stolbtsy. A few tanks remained in the 14th mechanized corps, they joined the 17th, located in Baranovichi. There is no information about the whereabouts of the cavalry.

Korobkov brought out the remnants of the 42nd, 6th and 75th. There is reason to think that the 49th Rifle Division is in Belovezhskaya Pushcha. A special parachutist is sent to check this and bring it out at dawn. Kuznetsov's exit is expected along both banks of the Neman. **Zhukov.**

What was the battle with the enemy mechanized corps in front of the Minsk UR today, and where is the enemy now, who was yesterday in Slutsk and in front of the Minsk

UR? **Klimovskikh.** The battle with the enemy mechanized corps in Minsk U Re was fought by the 64th Infantry Division. The enemy from Slutsk was advancing on Bobruisk, but by the evening

Bobruisk was still not occupied. **Zhukov.** How to understand "was not busy yet"? **Klimovskikh.** We believed that the enemy would try to break into Bobruisk on their shoulders. That did not happen. **Zhukov.** See that your enemy does not bypass your Minsk SD from the north. Close the direction of Logoisk - Zembin - Pleschenitsy, otherwise the enemy, bypassing the UR, will be in Borisov before you. That's all I wanted to say. Goo

At the time when General Klimovskikh was reporting to Zhukov on the state of heavy artillery, the 120th traffic policeman was approaching Bobruisk along country roads. On the outskirts of the city, barriers and commandant posts were put up to restore at least some order. Consolidated units and subunits were formed from lagging and mixed groups of military personnel. All transport, regardless of its ownership, was confiscated for the transport of ammunition and the evacuation of weapons and valuable property. The motorcade of the 120th Gap arrived in Bobruisk

at 17:00 on June 26, 1941. By order of the head of the garrison, Colonel Mavrin, 31 vehicles were taken from the 120th Gap to defend the city. One of the formed columns under the command of Captain Barybin and Lieutenant G.I. Nyunin was used to transport ammunition to the regiment and other units that were defending on the eastern bank of the river. For a day and a half, Colonel Lopukhovskiy and the unit commanders in cars searched for and gathered fellow soldiers who had fallen behind and fled during the bombing. Having discovered them, they appointed elders and sent them to

assembly point of the regiment. At this time, the regiment commander met a group of fighters led by junior sergeant Loifer, who was entrusted with the protection of the Battle Banner of the 120th Gap. During the next air raid, when leaving Slutsk, the top platoon's car burned down. The banner was removed from the pole, Loifer wrapped the banner around the body. The banner was saved, the colonel kissed the sergeant. In Bobruisk part the personnel of the regiment again wanted to be used as infantry.

Here, the commander of the 120th gap personally reported to the chief of artillery of the Western Front, Lieutenant-General N. A. Klich, about the state of the regiment, that the B-4 howitzers intended for the formation of the regiment of the second stage had to be left in the area of \u200b\u200bthe pre-war deployment of the unit. Since only 3 guns remained in the regiment (the fourth came later), he ordered to immediately move to the Mogilev area for reorganization. The division formed there, consisting of 4 guns, was advanced to the area of \u200b\u200bthe city of Stary Bykhov. At the same time, the head of the artillery of the front ordered Lopukhovskiy to report in detail in writing on the losses of the regiment,

especially in the materiel, over the past days. By 13:00 on June 28, the main part of the 120th gap concentrated in the forest 12 km south of Mogilev. On June 28, the regimental headquarters reported to the chief of artillery of the 4th Army that *“by order of the chief of artillery of the front, the regiment concentrated in the area of the city of Mogilev to form in the forest 10 km south along the Gomel highway. One*

division was formed from the remaining materiel.” [153] Unfortunately, not all opportunities for the defense of Bobruisk were used. No sooner had our troops crossed to the eastern bank of the Berezina River than the sappers blew up the bridge. According to veterans, participants in the events, this was done in an atmosphere of panic: our armored vehicles approaching the city from the west were mistaken for enemy tanks. The premature undermining of bridges is confirmed by German data. Many had to cross the river on improvised means and swim. A large number of vehicles, weapons and equipment remained on the west bank.

Warehouses of artillery weapons in the fortress had to be burned.

Moreover, it follows from the explanatory notes that they were set on fire already at 4–5 o'clock in the morning on June 27, and all the artillery in

warehouses [154] ^{the} was destroyed. Subsequently, the commander of the 47th Infantry

Corps had to submit a special report on the circumstances of the fighting for crossings in the Bobruisk area. General I. S. Povetkin

with corps units (246th separate engineer battalion and 273rd separate communications battalion, 462nd cap) crossed to the eastern bank of the Berezina by 18:00 on June 27 and from 20:00 took command of the combat area near Bobruisk. All three bridges (railway, reinforced concrete and wooden) across the Berezina River near Bobruisk were blown up by order of the commander of the 4th Army on the same day, June 27, at 22:00, when enemy tanks appeared. Small groups of enemy motorcyclists, supported by tanks, tried to cross the river, but were repulsed. The detachment of General Povetkin included 500 cadets of the automotive and

tractor school, 400 people. The 21st dep (road maintenance regiment), the 273rd both (300 people) and the combined regiment of the 121st sd (up to 1000 people) - just over 2.5 thousand people, 6 [155] tanks and 20 guns. At the same time, the detachment had absolutely no technical means of communication. There were no radio stations to maintain communication with the headquarters of the 4th Army. Units and subunits were controlled by voice and messengers on foot.

At 14:00 on June 28, after air and artillery preparation, the enemy began crossing in the area of the railway and concrete bridges. The crossing was disrupted by our air strike. At the same time, part of the bombs fell on the positions of our troops. The Germans, incidentally, noted that Soviet aircraft were still very active despite their heavy losses.

Units of the 21st dep (road maintenance regiment), the main part of the fighters of which were scribes called up for training from the regions of Brest and Grodno, occupied positions near the railway bridge. Most of the fighters never held rifles in their hands. In addition, there was no command staff in the regiment. Attacked at 18:00 on June 28 by the enemy, the regiment could not stand it and retreated from its positions. At 18:30, General Povetkin personally led a counterattack by the personnel of the headquarters of the 47th Corps along the Rogachev-Bobruisk highway. The enemy was pushed back. At the same time, the general was wounded, but remained in the ranks, and his adjutant was killed.

On June 29, the enemy captured Titovka after a second attack. Of the 7 tanks of the tank company assigned to the detachment, 5 were hit. Under the cover of the two remaining BT tanks and the fire of guns of the 462nd Gap [156],^{the} .

Povetkin's detachment began to withdraw. On the German side, the battles near Bobruisk are seen somewhat differently. The 3rd Panzer Division began its attack on the city on 28 June. During the offensive, the forward battle group pushed the enemy back from the road only when he interfered with the fulfillment of its own task. The increasing distance between the forward battle group and the infantry caused many problems: the infantry on foot could not keep up with the advancing motorized troops. But these problems were eventually overcome. At dawn, the outskirts of Bobruisk were reached by a vanguard formed almost on the move, consisting of two light tank platoons and one motorized company. They rushed into the city, passing buildings still burning from artillery fire from the previous day, and at 05:00 raised the flag at the castle. Bobruisk was occupied by tanks and motorized infantry as a result of a surprise attack. The enemy on the western bank of the Berezina River did not actually put up strong resistance. The bridge, however, was destroyed.

But in the future, the Russians put up strong resistance on the eastern bank of the Berezina, preventing them from crossing the river on the move. Under the cover of artillery fire, the 2nd Battalion of the 394th Motorized Regiment managed to cross the river in rubber boats, despite strong enemy resistance. The Russians launched a desperate counterattack, and only artillery and air support saved the battalion from destruction over the next day. In the meantime, the sappers managed to construct a temporary bridge so that both rifle regiments of the division could cross the river and extend the bridgehead to the north, east, and south. The Russians retreated east into marshland. In the evening, the bridgehead was expanded to a depth of seven kilometers. In the battle near Bobruisk, units of the 3rd Panzer Division were detained on the Berezina River for two days.

The General Staff did not abandon attempts to clarify the situation, which remained unclear even for the front headquarters. General Malandin called General Klimovsky to a direct wire:

"The People's Commissar demands to give him a concrete and truthful answer to the following questions:

First. How many tanks crossed over to the Bobruisk region and to the eastern bank of the Berezina? Second.

Where is the enemy at this time and the nature of his actions? Third. How many troops oppose the enemy at the new frontier? Fourth. How many divisions do you

currently have in your hands? Detailed transfer the combat composition in cipher.

On the back of the form for recording the negotiations, notes were made in pencil (apparently in order to prepare an answer): *"Destroyed wooden bridge of Bobruisk. [The enemy] advanced a sliding bridge and [157] ferried 12 tanks ... at Domanovo."* Pavlov joined the conversation, — .

answering that he had no data on whether Minsk had been abandoned, and the commander of the 13th Army had no information about the withdrawal of the 2nd Rifle Corps. Pavlov also reported that the threat of encirclement forced him to order the withdrawal of the 2nd and 44th rifle corps and the 20th mechanized corps. Only parts of Korobkov reached the new frontier, suffering huge losses from the actions of tanks and aircraft. They require serious staffing and putting in order. To communicate with the commander of the 17th mechanized corps, Petrov, Pavlov sent a plane, but it turned out that the Baranovichi airfield was occupied by enemy aircraft. The retreating units, pursued by the enemy, were late with access to the Berezina River, so it was decided to retreat further to the Dnieper, where the armies of the Reserve Front were deployed. The situation on the entire strip of the Western Front continued to deteriorate. On June 28, our troops left Minsk. The next day, Stalin twice came to the People's Commissariat

of Defense, to the Headquarters of the High Command. According to Zhukov, he reacted extremely sharply to the current situation in the Western strategic direction. There are several different versions of this visit of the leader. We will not present them here due to the lack of sufficient evidence.

On June 30, at 6:45 am, Zhukov, at the direction of People's Commissar S.K. Timoshenko again spoke on "BODO" with Army General D. G. Pavlov, from which it became clear to him that the commander himself did not know the situation well.

Excerpts from the recording of the negotiations: **Zhukov.** *We cannot make any decision on the Western Front without knowing what is happening in the areas of Minsk, Bobruisk and*

Slutsk. Please report on the merits of the issues. Pavlov. *In the Minsk region, the 44th Rifle Corps withdraws south of the Mogilev Highway; the line of defense at which he must stop was Stakhov-Cherven. In the Slutsk region yesterday, according to aviation observation, the 210th motorized rifle division fought in the Shishetsy region. In the region of Bobruisk today at 4 o'clock the enemy built a bridge, which slipped 12 tanks.*

Zhukov. *The Germans are radioing that two armies are surrounded by them east of Bialystok. Apparently, there is some truth in this. Why is your headquarters not organizing the expulsion of liaison delegates to find the troops? Where are Kulik, Boldin, Kuznetsov? Where is the corps? It cannot be that the aviation did not see the*

cavalry. Pavlov. *Yes, a lot of truth. We know that on June 25 and 26, units were on the Shchara River, fighting for crossings with the enemy occupying the eastern bank of the Shchara River. The Third Army sought to withdraw on both sides of the Shchara River. 21st Rifle Corps - in the Lida area. They had radio contact with this corps, but since yesterday there has been no connection, the corps is making its way in the direction indicated to it. Aviation cannot find cavalry and mechanized units, because all this is carefully hidden in the forests from enemy aircraft. A group was sent with a radio station with the task of finding out where Kulik was and where our units were. There is no response from this group yet. Boldin and Kuznetsov, like Golubev, were with units until June*

26. Zhukov. *Your main task is to find the units as quickly as possible and bring them across the Berezina River. Take up this matter personally and select capable commanders for this purpose.*

The Headquarters of the High Command requires you to gather all the troops of the front in the shortest possible time and bring them to the proper state.

Under no circumstances should enemy units be allowed to break through in the area of Bobruisk and in the area of Borisov. You must by all means

began to prevent disruption of the end of the concentration of the army in the area of Orsha - Mogilev - Zhlobin -

*Rogachev. To direct the battles and so that you know what is happening near Bobruisk, send a group of commanders with a radio station under the leadership of your deputy. Evacuate the warehouses immediately so that all this does not fall into the hands of the enemy. As soon as the situation clears up, immediately report everything. **Pavlov.** To keep Bobruisk and Borisov, we will abandon all units, even the school. [8]*

Bobruisk was surrendered without a fight to the weak vanguard of the enemy, the bridges were blown up even earlier - before his approach. But it turned out to be more difficult to recapture the city - the Germans immediately took measures to secure the captured lines and objects. However, the order has been given, it must be carried out. And cadets of the autotractor school were thrown into the battle for Bobruisk. The commander of the 4th Army at 21:30 on June 29 ordered on the night of the 30th to capture the city of Bobruisk and destroy an enemy motorized group in it. For this, it was ordered to prepare a detachment of 200-300 volunteer cadets with bundles of hand grenades. The cadets were supposed to swim across the river so that at dawn two groups - from the northern and southern outskirts of the city - would make a sudden raid on the enemy. 6 wedges were supposed to support the attack. It was

planned to transport regimental guns on rafts to the western coast. In extreme cases, they wanted to pull them on the ropes with wedges. A detachment of cadets was supposed to pursue the enemy in the direction of Slutsk. During the period of persecution of the enemy, he was supposed to maintain aviation mark ^[158]. be At the disposal of Korobkov, "received at 2:30 30.6.41".

We did not have time to prepare for the specified period. The corps commander set a new deadline - to report by 24:00 on 30.6.41. Although, according to our reconnaissance, there were only up to one enemy infantry and one tank battalion in Bobruisk on June 28 and 29, it was not possible to drive it out of the city and create a bridgehead on the western bank of the Berezina. All the forces of the detachment of General Povetkin were involved in the liquidation of the bridgehead captured by the Germans on the eastern bank of the river.

On July 1, the situation worsened north of Bobruisk, where early in the morning the main forces of the 3rd Panzer Division crossed the Berezina along two pontoon bridges. At the same time, part of its enemy tanks crossed the river along the bottom. On July 3, Rogachev was taken by a strong battle group, [159] reinforced with tanks equipped for underwater movement.

Given the enemy's exit to Borisov, the situation on the Western Front became critical. Communication worked intermittently, command and control of troops was not getting better. They did not know the situation not only of the enemy, but also of their own troops. Even the fact that 11 divisions of the front were surrounded was not immediately found out in the General Staff. As early as June 30, Stalin ordered the commander of the Western Front, Pavlov, to be summoned to Moscow. On this day, Lieutenant General A. I. Eremenko took command of the front, but already on July 2 he was replaced in this post by Marshal S. K. Timoshenko, who at the same time became Commander-in-Chief of the Western Direction. The 19th, 20th, 21st and 22nd reserve armies of the second strategic echelon, which arrived from the depths of the country, were included in the Western Front. But only 24 divisions from their composition occupied the designated lines. Taking into account the possibility of further advance of the enemy in the rear of the front, four newly formed formations (29th, 30th, 31st and 32nd armies) were deployed, which, together with the 24th and 28th armies, from July 14, made up the Reserve Front armies. It was impossible to hide the defeat of the troops

of the Western Front, and Stalin needed "culprits". Pavlov was appointed the chief of them, although three marshals, Shaposhnikov, Kulik and Voroshilov, helped save the situation. On July 4, 1941, Army General D. G. Pavlov and Major General V. E. Klimovskikh were arrested. Lieutenant-General G.K. Malandin took over as chief of staff of the front. The corps commissar A. Ya. Fominykh, who was removed from his post as a member of the Military Council, was replaced by the army commissar of the 1st rank L. 3. Mekhlis. The latter developed a vigorous activity to identify and arrest other "traitors" from among the leading employees of the Western Front Department. Stalin sent Mekhlis his highest approval: *"The State Defense Committee approves your measures to arrest Klimovsky, Oborin,*

Tayursky and others, and welcomes these events as one of the surest ways to improve the health of the front. Only the

Fomins escaped arrest - who, apparently, assisted the investigation in the investigation of "crimes". Mekhlis, continuing to actively collect dirt, was going to present Stalin with a new list of "traitors", including some senior officials of the General Staff. In a report to the head of the Main Political Directorate of the Red Army, L. Z. Mekhlis, dated July 19, 1941 (the fate of Pavlov and other generals had already been sealed at that time), Fominykh makes accusations against the leadership of the General Staff. He reports that for 8 months, with all the reports and operational studies, the district command reported on the unfavorable configuration of the state border in the front line. The presence of the Bialystok ledge created conditions for the enemy to cover the flanks of the grouping of troops of the front and their subsequent encirclement. This situation required strengthening the very vulnerable flanks of the group, which was demanded by the Military Council of the district. He writes: "[...] *All these provisions were reported and worked out in the General Staff in more detail.*

They agreed with all this, but no real measures were taken. [...] 2. *In addition, tasks were*

always

given

to work out options for an offensive operation with a clear discrepancy between real forces. But from somewhere additional forces appeared and, in my opinion, an artificial preponderance

of

forces was created in our favor.

[...]

4. The military council of the district proposed: a) to strengthen the flanks of the district: from from the north - the Grodno direction and from the south - the Brest direction.

They did not agree with this for 6-7 months, and only recently it was allowed to withdraw to the Grodno direction 56 and 85 a single Brest direction - 75 rifle divisions, and later 113 rifle divisions. These divisions have been in place since the end of May - beginning of June [...]".

At the end of the report, the divisional commissar makes a significant conclusion:

"I do not undertake to draw conclusions - who specifically slowed down these issues in the General Staff, because for this you need to know the work of the General Staff, but that a number of the most serious state issues were resolved extremely slowly - this is a truth that can be easily proved by raising all the documents.

[...]

I believe that the examples given deserve attention, in order to understand them in detail and identify the culprits" [4].

I wonder if the documents to which Fominykh referred were preserved in the archives of the General Staff? In 1953, L. Beria, who was under arrest, when he could not lie, reminded his former colleagues in the Politburo that Stalin, for the defeat of our troops in border battles and failures in command and control, wanted to shoot Zhukov, like Pavlov. This can be read in the transcript of the July plenum of the Central Committee of the CPSU in 1956: *"In the archival file with*

the letters of the executed L. Beria, a previously unpublished fragment of his letter dated July 1, 1953 was revealed. It is executed on 1/4 of a sheet containing illegible text on both sides: "Dear Georgy [Malenkov] and dear comrades, I am now in such a state that I can be forgiven for having to write like this.

George, I ask you to understand me, that you know better than others me. With all my energy, I only lived how to make our Country

All my desire and work was [hereinafter illegible - Compiler].

Assignment

Prepared to[a]to you know by your advice on Yugoslavia [.] and also an assignment for P. Kot.[? - Comp.] probe Mekesfranz [? - Comp.] If I was intriguing in front of

Comrade Stalin [s], this, if you think well, is just a misunderstanding [.] that this is not true, Georgy [] you know this well [.] on the contrary, all those [comrades (? - comp.)] M[ikoyan] and Molotov] should know well that Zhuk[ov,] when [he] was removed from the general] headquarters at the instigation of Mekhlis[a], because his position was very dangerous, together with you we persuaded him to appoint commander of the [Reserve] front and thereby saved the future hero of our (? - Comp.) [Patriotic] war,

or when comrade Zhukov [a] was expelled from the Central Committee, it hurt all of us" [further illegible.

— Comp.] [23] Stalin could not do with Zhukov the same way as with Pavlov. But already on July 31, he was removed from the post of chief of the General Staff, with whose duties on the eve and with the beginning of the war he clearly failed. He was replaced as Chief of the General Staff by an experienced staff worker, Marshal B. M. Shaposhnikov, who had already headed the General Staff from May 1937 to August 1940. Speaking about the reshuffles in the General Staff associated with the reorganization of the leadership of the Western Front, Shtemenko in his book did not say anything about the reason for the removal of Zhukov. He only said dryly that Zhukov was appointed commander of the Reserve Front, without saying a single kind word about his work as chief of the General Staff.

In 18 days, from June 22 to July 9, 1941, the troops of Army Group Center managed to defeat the main forces of the Western Front and, having advanced 450–600 km inland, covered a third of the way from the border to Moscow. The heavy losses in personnel, weapons and equipment suffered in the initial period of the war affected the further actions of our army for a long time to come.

What are the reasons for the defeat of the army, which in terms of its numbers, the number of weapons and military equipment, the provision of ammunition and other materiel was not inferior to the German one, and in some ways even surpassed it? Disputes about this among

historians do not stop until now. Various versions are put forward, up to the most incredible. Sometimes one can come across statements that no "surprise attack" is confirmed by any documents other than "memories and reflections" of those who shamefully lost the beginning of the war. Like, what kind of surprise can there be if everyone knew about the imminent start of the war?

I would single out two groups of reasons for the defeat in the initial period

of the war. **The first group** is associated with the mistakes of the country's political leadership, which for various reasons ruled out the possibility of a German attack on the USSR in the summer of 1941. This gross political miscalculation led to mistakes and miscalculations by the military leadership in determining the time of the attack and the force of the strike. Whe

they proceeded not from a comprehensive assessment of the enemy, his strength, intentions and capabilities, but from their own ideas about him. Failed to distinguish reality from disinformation. The general large quantitative superiority in forces and means over Germany gave rise to confidence in the successful outcome of the first operations in any conditions. The

plans drawn up in the event of war were based on outdated views about the outbreak of war, when decisive military operations would unfold only after the completion of the concentration and deployment of the main forces of the parties. The military leadership did not fully take into account the possibility of covert deployment of enemy strike groups even in peacetime and the experience of the first operations of the German troops against Poland and France. The combat readiness system, taking into account this experience, was not finalized. In any case, it was not designed for the possibility of a surprise attack by the enemy, and the plans for covering the concentration and deployment of our

troops did not correspond to reality. The fact that the German invasion of our territory turned out to be unexpected for our troops cannot be discarded. But the debate about the extent to which it turned out to be sudden has not subsided so far (by the way, surprise and suddenness are synonymous in Russian). So what is the reason - in suddenness

Strategically, the invasion was not sudden for our military and political leadership. However, the Germans, by secretly advancing and deploying first-echelon troops in battle formations, made full use of the unpreparedness of our troops to repel an attack on a tactical scale. In doing so, they achieved **tactical surprise**. Sudden actions of this magnitude led to the disruption of plans to cover the border, which allowed the German command to immediately seize the initiative and achieve maximum results with minimal effort, money and time. On the very first day in the Brest direction, the Germans advanced 50–60 km. But that's not all. The enemy, having preempted our troops in the deployment of operational formations, unexpectedly launched an invasion immediately with large forces. And thus achieved **operational surprise**.

Using it, as well as the three-four-fold superiority in forces and means created by him in the chosen directions of strikes and the captured air supremacy, the enemy ensured a high rate of offensive, which in the Western Front in the first two three days of the offensive amounted to more than 50 km per day . As a result, the troops of the Army Group "Center" managed to quickly solve the assigned tasks in the main - the western strategic direction, encircling the operational scale and defeating the main forces of the Western Front. So Zhukov admitted that the main surprise for our command was not the very fact of the attack, but the strength of the invading army and the power of the strike inflicted in the first days. And although here one can see the desire of the former chief of the General Staff to relieve himself of responsibility for the fact that the invasion turned out to be sudden, on the whole, of course, he is right.

Some publicists say: declare a combat alert at least a couple of days before June 22, everything could be completely different (we leave out the question - combat alert or mobilization?). This required a political decision, the necessity and consequences of which require a special study. Documents relating to this important issue are not available to researchers (well, if they are preserved at all). Moreover, the memoirs of even the most prominent military leaders cannot be taken seriously if they are not supported by facts and relevant documents.

But what could be gained by the troops located near the border if they were warned and allowed in advance to use weapons in an attack, as the sailors did? Of course, there would have been less panic and more organization, the covering armies would have suffered fewer losses in people, weapons and military equipment. Aviation would have suffered less losses, to some extent it would have been possible to organize air defense. The morale of the personnel and their stability in subsequent battles would have been incomparably higher than after the shock received on June 22. And the enemy would need more time to overcome the defense, albeit not very organized and hastily engaged. And the loss of the enemy in this case, of course, would have been higher. And although the front would have been broken anyway, and the Germans would have reached Minsk anyway, on the Dnieper they would have m

defense. In this case, one could hope that they would not be allowed close to Moscow. But after all,

even later, during the war, when the Germans no longer succeeded (and if they succeeded, then rarely even in certain areas) to find our troops sleeping in barracks and airfields clogged with unready and uncamouflaged aircraft, they more than once put our troops on the brink of disasters. So, there were other reasons for the defeat, which can be attributed to the **second group**. They did not depend on momentary decisions of the leadership and were caused by deep processes that took place in the country and the army, as well as diseases of the rapid quantitative growth of our armed forces. In this article, they can only be identified.

In the first place, I would put the poor operational training of the commanders of formations and commanders of formations and, as a result, their lack of independence and unwillingness to take the initiative, for which, in case of failure, they could be accused of sabotage. They did not have a clear idea of the nature and possible scale of highly maneuverable operations, experience in leading large masses of troops and organizing the interaction of diverse forces and means. This includes the lack of cohesion and sluggishness of headquarters, their inability to organize reconnaissance and other types of combat and logistics support.

The deployment of units and formations of the covering armies was determined to a large extent not by operational considerations, but by the availability of barracks and housing for the families of command personnel. The construction of fortifications and the front line of defense were brought directly to the border. This led to dire consequences. The existing communication system in the border districts was based on the lines of the People's Commissariat of Communications. The headquarters of the districts, like the General Staff, did not take into account the increased capabilities of the enemy to disable it. This led to constant communication disruptions and loss of command and control. As a result, the command did not have time to monitor the development of the situation and adequately respond to its change.

When equipping the army with weapons, the main attention was paid to the production of the maximum number of basic types of military equipment to the detriment of auxiliary ones (including the development and production of communications equipment) and the development of infrastructure created

formations, without which it was impossible to achieve their effective use on the battlefield. The saturation of the troops with new, more advanced means of combat, the motorization of units and formations made increased demands on the training of personnel and the organization of combat operations at all levels.

The worst situation was with the training of specialists for the army, which had almost tripled in a couple of years (including due to the low educational level of the population). Schools and accelerated courses, training centers and regiments, regimental schools could not cope with the training of commanders and the most qualified specialists: pilots, driver-mechanics, commanders of tanks, guns and mortars, signalmen and soldiers of other specialties.

One could go on enumerating shortcomings in the training of units and formations of branches and services of the armed forces, which were not so easy to eliminate in a short time. But let us emphasize only what has long been known: the Red Army, in terms of the listed and other parameters, was in many ways inferior to the Wehrmacht, and especially

in the combat experience it gained during the war in the West. By July 8, formations and units of the 4th Army, which had suffered heavy losses, were withdrawn from the battle for reorganization. The remnants of defeated units and formations broke through to the eastern bank of the Dnieper from the deep rear of the enemy. At the checkpoints east of the Berezina, servicemen who had fallen behind their units were detained, who were sent to the 55th Rifle Division, the 120th Gap and other units, as well as to the front-line assembly point in Klimovichi (30 km southeast of Krichev). By July 12, 8,304 servicemen from various units were assembled there, of which — only 876 were armed. As of July 15 [160], there were already 32,129 people in the rifle units of the 4th Army. , organize the search and search for personnel who joined other units, draw up acts on guns, vehicles and property lost in battle. The command demanded *"in the classroom to sharply strengthen discipline, raise morale, perseverance and steadfastness in battle, incite hatred against fascism, which provocatively attacked the Soviet Union."* This was followed by a strict order to report immediately

leaving the enemy material, means of traction and ammunition [161].

On July 8, by order of the commander of the 4th Army, No. 030 was withdrawn for reorganization and resupply to the Cherikov area and the 120th gap. By this time, the issue of withdrawing large and special artillery from the front was fully overdue and required a solution. On July 15, the head of the GAU, Colonel-General N.D. Yakovlev reported to the Chief of the

General Staff: *"The nature of the hostilities developing on all fronts makes it impossible to effectively use artillery regiments and individual divisions of the RGK of large and special power in battles. Valuable material is at risk of loss. I ask for your order to withdraw BM and OM units to the territory of the internal districts, put them in order and prepare for military operations in accordance with their purpose.* The next day, Zhukov ordered: *"Immediately*

take away."

But the order of the 4th Army did not reach the regiment, and for some time the army did not know where it was. Unfortunately, in a combat situation this often happened when orders were given to units, bypassing their direct superiors. Therefore, in the operational reports of the 4th Army it was reported that there was no information about him. Although on June 28 the headquarters of the regiment reported to the chief of artillery of the army with a combat report that the regiment had been withdrawn to the Mogilev region for resupplying. The appendix to the report indicated the strength of four divisions, the park and headquarters batteries, the art park, a total of 815 people. Armament: 203-mm guns - 3, rifles - 662, revolvers - 128, light machine guns - 4, easel -5. Technique: cars - 66, tractors ChTZ-65 - 7, trailers - 5, motorcycles - 3, radio stations - 23 (5-AK - 5, b-PK [162] - RB - 4) . I had to ¹⁴ explain myself, and on July 13 from the headquarters of the 120th traffic police reported:

"The order that the regiment should arrive in Cherikov was not received. During July 3-4-5, a division of 4 guns formed by order of the Zapfront's NACHARTA operated as part of artillery 45 sk in the STAR area. BYKHOV, firing 102 shells,

the guns failed and were sent to the warehouse of the city of Rzhev, now the regiment does not have a single gun. By

order of the chief of staff of artillery of the Western Front, the regiment was redeployed to YELNYA. On the basis of the order to the troops of the Western Front No. 0054, the regiment was reassigned to the Zapfront Nachart, on 13.7.41 arrived in the SUKHINICHI area. To the report,

the chief of staff of the regiment, Major Mashkovtsev, attached a copy of the order of the NSH artillery of the Western Front, Major General Cariofilli: "Order to the troops of the

Western Front No. 0054 120 G AP b / m resubordinated to the nacharti of the Zapfront in the SUKHINICHI area.

Submit information to the commander of the 120th GAP b / m about the personnel of the artillery and combat equipment with a courier, and also send a communications delegate to the artillery [\[163\]](#).

headquarters "I According to the recollections of veterans, the regiment with the remaining guns (actually a consolidated division) took up firing positions on the eastern bank of the Dnieper opposite the town of Old Bykhov. In Bobruisk, the regiment was given several guns from the training park of the art school. They had many malfunctions, there was no liquid in the recoil devices. The regiment's repairmen put them in order in a short time. From an observation post located at an altitude of 2–3 km from the city, a column of enemy tanks and motorized infantry entering the city was clearly visible. A native of Bykhov, Lieutenant A. Pogoditsky said bitterly: "Could I have thought a few days ago that I would have to shoot at my native city!"

At the command of the regimental commander, the batteries opened rapid fire, firing all available 203-mm shells. When enemy tanks and armored personnel carriers nevertheless broke through to the bridge, it was destroyed by direct fire. Explosions of heavy howitzer shells inflicted great damage on the enemy. The intensity of the shooting was such that the recoil devices of the guns failed. An attempt by the enemy to cross the Dnieper in the region of Bykhov was thwarted. In battles and during the retreat, the 120th Gap suffered

heavy losses - about a quarter of its personnel, mostly missing, and most of the guns and tractors. The remaining obsolete and out-of-service guns were sent by rail to the rear. Personnel partly in cars, partly on foot

went to Yelnya, where the headquarters of the regiment was located from July 10, 1941 (Yelnya was captured by the Germans on July 19). During these days, many fighters and commanders who were reported missing, including those detained by detachments, were able to join the regiment.

At the reorganization near Yelnya, and then in the Sukhinichi area, where the regiment received new materiel, it was finally possible to more accurately calculate the losses of the regiment's personnel during the fighting. So, in the personal files of five officers, including the regiment commander, the entry "disappeared on June 24, 1941"

was canceled. In total, from June 22 to July 22, the regiment lost 535 people from the cadre, of which 8 were killed, 464 were missing (of which 376 were privates), 18 were wounded, 6 fell ill, and 39 left for other reasons [164]. the number of command personnel was missing - 14, wounded - 4, in total - 22 (including in Kossovo - 1, in Lesnaya - 1, near Ivatsevichi - 7, Grudopol - 3, on the Moroch River - 3, in Bobruisk - 2, at the Reitanov station - 1, did not appear in part 4 of the commander, who had gone on vacation before the war). Taking into account these losses and the strength of the regiment - 815 people, it can be concluded that the detachments formed by order of senior commanders for defense in Shchara and Slutsk were counted as transferred to other units. Called up a few days before the start of hostilities, local residents for the regiment of the second stage were not taken into account. Of the 464 people

(87% of the total losses of the regiment) missing, not all died. Some of those who fell behind the regiment in the confusion of the first days of the war continued to fight as part of other units. Many were captured, but most of the missing fighters from among those called up in Northern Bukovina (in 1940) and in the western regions of Belarus (1941), taking advantage of the confusion in the early days of the war, simply preferred to go home in order to survive the difficult time. In particular, already in the Ivatsevichi area, 18 commanders called up from the reserve went missing - apparently, they fled. With access to the old border, the regiment did not count 10 more reserve officers who did not want to leave their native [165] places. The loss report contains a list of their names.

The regiment also suffered heavy losses in armament: guns 203 m / m mark 6 "Midvale" - 22 (of which 4 were broken), 203-mm B-4 - 12, rifles - 2222, revolvers - 409; in technology: tractors - 63,

tractor trailers - 74, motor vehicles - 107 (including cars - 6, special - 14), tanks - 3, walkie-talkies - 10, telephones - 183, stereo tubes - 14, compass - 30, binoculars 102 [166] — .

Most of the lost weapons, automotive and tractor equipment, optical instruments and communications equipment were left at the points of deployment of the regiment's units. The heavy losses and the forced retreat of our troops could not but arouse in the personnel a feeling of the greatest anxiety and uncertainty. The dominance of enemy aviation in the air, continuous bombing and shelling, lack of ammunition, frequent interruptions in communications and lack of firm control gave rise to many perplexed questions among the soldiers. Veterans recalled that many considered treason to be the cause of heavy defeats. These conversations gained real ground after order No. 0250 of July 28, 1941, with the announcement of the verdict of the Supreme Court of the USSR on the execution of General of the Army D. G. Pavlov (commander of the Western Front), Major General V. E. Klimovskikh (chief of staff), A. T. Grigoryeva (chief of the front signal troops)

and A. A. Korobkova (commander of the 4th Army). These persons, of course, were guilty of many things, but not of the charges brought against them. The case was fabricated on Stalin's orders in order to absolve himself of responsibility for insufficient preparation to repel an enemy attack. The usual practice of a dictator. Everyone understood this, but remained silent. An investigation carried out in 1956–1957 based on the materials of the investigative file showed that *“an analysis of all the documents at our disposal and numerous testimonies of participants in the initial period of the war refute the assertion of the indictment that PAVLOV, KLIMOVSKY, GRIGORIEV, KOROBKOV and KLICH are guilty of cowardice, inaction, indiscretion, in the deliberate collapse of command and control and the surrender of weapons without a fight ... ”* [167]. By the decision of the Military Collegium of the Supreme Court of the USSR

in 1957-1958, all of them were rehabilitated posthumously. In the difficult conditions of the combat situation, thanks to the courage and steadfastness of the bulk of the personnel, the will and organization of the commanders and political workers, the regiment was preserved

imagine the state of the regimental commander at that time. Judging by the letters to his relatives, he felt bitterness over the heavy losses and, at the same time, a sense of satisfaction that he managed to save the banner of the regiment, bring most of the personnel and his backbone to his troops. Of the 815 people who went to the Mogilev area, 285, that is, 35%, were the command staff of the regiment, of which 123 were senior and middle commanders. In the 120th gap, 16 positions remained vacant - mainly political (club - 3 people, secretaries of the party and Komsomol organizations) and medical workers (head [168] of a pharmacy, 5 paramedics). For comparison: in the 375th gap on July 18, the shortage of command personnel was 57 people, and by July 23, command positions in the regiment remained approximately half vacant. Apparently, this was the reason that the 120th gap was not withdrawn to the rear, like some units that had lost their materiel.

By July 20, 1941, the regiment in the state 08/44 (4 divisions) already had (in brackets - available): officers 166 (165), sergeants 419 (208), privates 1586 (733), total 2171 (1106), 24 [169] (24) howitzers , 1298 rifles, 58 (50) r / stations), political staff - 22 (16), technical staff - 22 (20), administrative staff - 11 (10), [170] medical staff - 13 (8), total 175 (161) Four divisions were armed with: 122-mm howitzers - 6 (6), 122-mm guns - 6 (6), 152-mm howitzer guns - 12 (12), total guns - 24.

From the order of the chief of artillery of the Western Front, General of Artillery Chistyakov (General Camera was already in this position in August) No. 1005s dated July

24: *"The 120th howitzer artillery regiment of the RGK will be understaffed at the expense of 375gap RGK, deploying three divisions of three batteries of two-*

gun composition. 1 division 122 m/m howitzers in 1938. 2 and 3 divisions 152 m/m howitzers in 1938 .

For the remaining combat equipment after completion, the commander of 375 GAP must submit information to the headquarters of the artillery of

the Western Front. The deployment point of the 120th GAP RGK KOZLOVO-OZERO northeast

of 25 km of Vyazma ” [171] Due to the lack of weapons and heavy losses in personnel, the troops, including the artillery of the Red Army, were transferred to new states of a reduced composition. For example, in rifle divisions, instead of two artillery regiments, one was left. And the 120th gap became an ordinary three-divisional howitzer regiment (6 122-mm and 12 152-mm howitzers remained in service). After the regiment of the 4th division was expelled from the state, several commanders were transferred to other units, 117 (122 in the state) officers remained in it. More high-speed tractors STZ NATI-5 were now used as tractors. The calculations were placed in the bodies of tractors. On July 31, near the village of Kozlovo Ozero (17 km northeast of Vyazma), the reorganization of the regiment was completed, and on August 1 it became part of the group of troops of General Rokossovsky near Yartsevo. Here, in heavy fighting, our troops thwarted the enemy's attempts to close the encirclement of the troops of

the 16th and 20th armies east of Smolensk. Acting from August 4, already as part of the 19th Army of I. S. Konev, the regiment on August 11, along with other artillery units, provided a breakthrough from the enemy rear of the group of Lieutenant General I. V. Boldin, which fought for 45 days in the rear of the German troops from the border itself. Then the regiment participated in the Dukhovshchina offensive operation, supporting the advancing units. Its 152-mm howitzers-cannons suppressed enemy artillery and mortars, the system of its observation, control and communications. Tethered balloons were used for reconnaissance of enemy firing artillery batteries. But there

was nothing to reliably suppress enemy firepower - there were not enough shells. In the documents of the enemy during this period, “large in number and heavy in caliber Russian artillery” was noted, which greatly annoyed them. The Germans bombarded the positions of the artillery units with leaflets from the air, in which they threatened the artillerymen

During the three months of fighting, the personnel learned a lot. The main and reserve firing positions were equipped, schemes of various types of fire were drawn up, landmarks were shot. The way of life of front-line soldiers has also changed. Dugouts were equipped for personnel. Everyone finally understood that the war is serious and for a long time. There was confidence that the Germans can be beaten, that time is working for us. For the battles near Yartsevo and during the attack on Dukhovshchina, 12 officers and sergeants (gun commanders), including division commanders captain V. M. Zhloba and captain F. K. Rabotnov were presented for government awards, and the regiment at the end of September - for assignment guards rank. In 1973, I. S. Konev, at a meeting of veterans of the 19th Army, shortly before his death, spoke of the 120th Gap in the following way: "the regiment was a regular one, moved away from the very border, fought well near Dukhovshchina." The marshal was a little mistaken - the regiment began to fight on June 23 near Ivatsevichi. He wanted to emphasize that the personnel of the regiment, fired upon in the battles in Belarus and during the withdrawal, gained invaluable combat experience, which was useful in the battles near

Yartsevo and helped to fulfill their duty near Vyazma to the end. The officers of the regiment did not sit in the rear. On August 27, at the NP of 2nd division near the village of Kokhanovo north of Yartsevo, the commander of the regiment, Colonel Lopukhovsky, was wounded by a fragment of a mine [172]. He was replaced by the chief of staff, Major F. S. Mashkovtsev. Shortly before this, the commanders of the 1st division, captain V. M. Zhloba, and the 2nd division, captain F. M. Rabotnov, were wounded, on September 4, the chief of staff of the 2nd division, senior lieutenant A. A. Purgin. His father's last letter, dated October 1 (he returned from the hospital the day before the start of the German offensive on Moscow), breathed confidence: *"What happened at the beginning of the war has come to an end. We thunder, we bring down 'Voroshilov kilograms' (a newspaper stamp of that time) on the head of the enemy day and night ... We destroy the reptiles, wherever they are - in the air, on the water, on the surface*

of the earth and pick them out of the ground. Artillerymen cannot be taken prisoner!" [173] Unfortunately, the situation in October 1941 in the Moscow strategic direction, for various reasons, was far from in favor of our troops. On October 2, the Germans launched Operation Typhoon. And again, the s

unexpected for our command. Headquarters in the Civil Code, and the front commanders did not really listen to the opinion of the army commanders and the conclusions of the intelligence officers. They were assigned the role of executors of instructions "from above". This is one of the reasons why none of the three fronts succeeded in determining the direction of the enemy's main attack, and therefore correctly choosing the direction and areas of concentration of the main efforts - because they proceeded not from an assessment of the intentions and capabilities of the enemy, but from their own ideas about him, about the importance of destinations and areas. Again, on the seventh day of the offensive, the main forces of the Western and Reserve Fronts, including the troops of the 19th Army, were surrounded west of Vyazma. On October 11, during a breakthrough from the encirclement in the Bogoroditskoye area, the 120th gap fired the last shells, supporting the 166th rifle division, which was advancing on the right flank of the breakthrough sector. But another attempt to break th

Having fired the last shells and destroyed, by decision of the Military Council of the 19th Army, heavy weapons and military equipment, the remnants of formations and units moved south along three routes, to join with the 20th Army. The 120th gap went along the left route, closer to Vyazma. But by this time, the enemy had managed to split the encircled grouping of our troops into two parts with a strike along the Semlevsky tract. At the turn of the Vyazma-Smolensk railroad, units of the army emerging from the encirclement were met with organized fire. In the last battle near the village of Bogdanovka (6 km southwest of Vyazma), the commander of the regiment, Colonel N. I. Lopukhovsky, was mortally wounded, the seriously wounded chief of staff, Major F. S. Mashkovtsev, and the commissar battalion commissar G. A. Rusakov shot themselves. Few managed to break

through. In 1980, the Vyazma search engine H. N. Slesarev found the remains of 11 soldiers near Bogdanovka. Three of them were identified, they were all from the 120th gap. On the chest of junior sergeant N. G. Proselkov, under his overcoat, Slesarev found the remains of a red cloth folded in several layers - the banner of the regiment, which, unfortunately, could not be preserved. Over the course of several years, he discovered the remains of more than 100 soldiers in this area, most of whom were artillerymen.

By order of the NKO No. 00123 of December 24, 1941, the regiment was excluded from the composition of the parts of the RGC [174]

On May 9, 1988, at the Gredyakino station, veterans of the regiment and search engines of the NITSEVT detachment of the city of Moscow erected a monument to the soldiers and officers of the 120th GAP RGK, who died on October 13, 1941 during a breakthrough from the encirclement.

APPLICATION

***The text of the report of the commander of the 120th
GAP b / m RGK [175] to the Chief***

of Artillery of the front The regiment until 22.6.41, the main part was in the Obuz Lesnaya camp with the material base and property of all kinds needed for studying in camps in peacetime - respectively states.

All other property and material resources are artillery materiel - 203 m / m howitzers of the 1939 model [so in the text. - L. L.], received from 318 GAP on 21.6.41 - tractors, trailers, vehicles, both for the regiment of the first stage, as well as for the regiment of the second stage, were left in the warehouses of winter apartments under the protection of the guard team.

I became aware of the attack by the enemy on the territory of the USSR at 14:00 on 22.6.41 from the district committee of the CP(b); at the same time, an order was received from Colonel Dolgov by telephone to concentrate the regiment by 20:00 on 23.6.41 in the area of BEREZA KARTUZSKAYA, later this decision was confirmed with the indication that the regiment was attached to the commander of the 28th SC. In

pursuance of the order, the regiment went out: on the route: through Ivatsevichi, st. Kosov and the

second part at st. Kosov in order to unite in the village. Gogtsevo, having seized property that could be raised with traction and driver's staff, everything that was impossible to take remained on

place.

During the march, the regiment in parts was subjected to repeated bombardment from the air. As a result of the day on June 23, 1941, the following turned out:

Tractor column, following from winter quarters, consisting of 20 tractors, 47 trailers - 3 of them with chemical property; 16 with ammunition - were bombed by aviation in the area [of the house] of the forester vil. Alekseevka [correctly - Alekseiki - L.L.] and m[estechka] Ivatsevichi and at the exit from Ivatsevichi on the bridge over the river. Schara [correct - r. Grivda, a tributary of the Shchara - L.L.] the column did not arrive at the place of concentration, there is no information about its location.

At 20:00 on June 23, 1941, the regiment concentrated in the forest of Yu.V. Byten [Byten, 20 km northeast of Ivatsevichi - L. L.] and a task was received from the NSh 28 SK to deploy with the task of supporting the defense of 800 joint ventures (143rd rifle division - L. L.), *but* since the regiment there were only 120 shells (what was in the camp, but the column from the winter quarters did not fit), [added: "one division was deployed" - L. L.], the rest of the divisions were tasked with concentrating in the forest south. h. Lesna. At the time of receiving the mission and the deployment of the division, the regiment was subjected to shelling and bombing from the air, and at the time of movement to the place of concentration, the columns - tractor and automobile - were again bombed from the air, and the deployed first division was attacked by tanks. As a result, on the night of 24.6.41 and in the afternoon of 24.6.41

was destroyed and left at the place of defense

Guns 203 m / m mark-6 Midvel.....10 pcs.

Tractors..... 21

Trailers..... 13

Motor vehicles..... 14 24.6.

41, at about 11:00, on behalf of the commander of the 4th Army, Colonel Comrade Nosovsky ordered the formation of a 120th GAP battalion from artillerymen to organize defense at the turn of the west. Art. Lyakhovich 10–12 km. The battalion was formed in the composition of 350-400 people, led by the commanding staff of the

regiment, but according to a report to the army commander, this order was canceled. Around 18:00, a mass retreat of the infantry began, I gave the order to withdraw the regiment across the river in the direction of Sinyavka; when following the bridge [on the river. Shchara - L. L.] one gun fell into the

(the tractor column took a detour), the tractor column, consisting of 4 guns, was attacked by infantry and tanks and was fired upon and bombed from the air. As a result of the shelling, the radiator was destroyed, the tractor was out of order and the front end of the second gun was broken, the tractor with the gun remained. The column was subjected to artillery fire while crossing

the river. Repelling [attacks] by infantry and tanks, the regiment organized with its own means, having only one rifle, holding back the advance of the infantry throughout the night and subsequently these people did not return to the unit, continuing to remain at the forefront. As a result, from 11:00 on 24.6.41 to 06:00 on 25.6.41 it was destroyed and remained at the location of

the enemy: Tractors.....

9 Cars..... 12

Trailers..... 14 In

the morning 25.6 .41 the remnants of the regiment concentrated in the area of the frontier post on the line of the old Soviet border (Timkovsky UR) [and] took up

defense. At about 16:00, an order was received from the commander of the 4th Army to withdraw beyond Slutsk up to 20 km along the highway to Bobruisk and be placed at the disposal of the beginning. Slutsky U R. Deputy Captain Barybin was sent for communication, but early. UR did not find

and did not establish contact with anyone. Having met with the NSh UR, the latter advised, in order not to clutter up the road, to withdraw vehicles and the remaining 3 guns with trailers to the Bobruisk area.

The convoy arrived in Bobruisk at 17:00 on June 26, 1941. Having met you in the Bobruisk area, it continued to follow the area you indicated - Mogilev zap. 20 km. By

order of the head of the garrison of mountains. Bobruisk, 11 cars were allocated and left at his disposal. In the winter apartments of the mountains. Kosov left:

Guns 203 m/m.....12 pcs.

(requiring overhaul): Tractor

trailers..... 6 Special

vehicles..... 7

By order of the head of the garrison of mountains. Bobruisk Colonel Mavrin taken to organize the defense of the mountains. Bobruisk 20 vehicles, the last [to the regiment] did not return. Transferred to the headquarters of the 4th Army 4 vehicles. Families of the commanding staff were sent from the quarters of the regiment in 4 cars - they did not return. In the town of Sinyavka taken to transport the wounded, the cars did not return - 20 pieces. 11 vehicles were sent to Baranovichi for fuel; As a result of the hostilities in which the regiment

took part, from 22.6.41 to 26.6.41 the regiment had losses: Guns 203 m / m mark-6 Midvel.....22 pcs.

Cars.....
169 Tractors..... 65
Tractor trailers..... 82 shots 203 m/
m

overhaul: Motor
vehicles..... 13
Tractors..... 13
Tractor trailers..... 6
Cars..... 46 . Kosov

and have not been yet
unloaded from the platforms, reshipped to the station. Ivatsevichi.

4) The shots are all confused as a result of the fact that the vehicle on which they were transported was smashed and burned as a result of air bombing.

Commander of the 120th GAP Colonel
Lopukhovsky Chief of Staff Major *Mashkovtsev*.

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**Boris Kavalerchik. What tanks
were better in 1941?**

Introduction

Tanks made a real revolution in military affairs and in many ways changed the nature of warfare. Since their first appearance on the battlefield, they have attracted and continue to attract the interest of many, many people. But it is thanks to this increased general attention that tanks have acquired numerous myths and legends, which often make it difficult to see their true essence. In the views of some people, tanks have become a kind of miracle weapon that can independently decide the outcome of any battle. In this regard, the answers to a long-standing sore question are interesting:

what nevertheless predetermined the catastrophe of the Red Army in the border battles of 1941? There are different versions of this. The official Soviet historiography named the numerical advantage of the Wehrmacht in tanks among the main reasons for the defeat. To prove this point of view, double-entry bookkeeping was used, when Germany added up all the available tanks, and the USSR - only tanks of new types, which included only KV and T-34. At the same time, the latter were categorically declared the best tanks in the world, far superior to their German opponents in all respects. But the rest of the tanks of the Red Army with one stroke of the pen were ranked as light, obsolete, with extremely limited motor resources and fire hazardous engines due to wear and tear. On this basis, they were not even counted as having no real significance. Meanwhile, facts were deliberately hushed up that directly contradicted such derogatory characteristics of

pre-war Soviet military equipment. For example, hundreds of medium tanks T-28 available in the troops turned out to be undeservedly forgotten for some reason. It was not mentioned that most of the "obsolete" tanks were no more than 5 years old. And what exactly made them obsolete and prevented them from fulfilling their main combat missions? This question remained unanswered.

With wear and tear, everything was also far from easy. Supporters of the official Soviet version deliberately ignored the system of saving motor resources of equipment adopted in the Red Army before the war. Below it will be discussed in more detail. In addition, the resource of the pre-war Soviet tanks was not at all small. For the most massive of them - BT-7 and T-26 - the standard operating time before the overhaul of the engine was 600 hours. The resource of the V-2 engine installed on the T-34 and KV tanks was then very far from this figure.

The reason for the frequent breakdowns of Soviet tanks at the beginning of the war was not a small motor resource, but low reliability due to poor workmanship and poor maintenance. This applied to all of them, and not just to the old types of tanks, but we will dwell on this later. We will also talk about the fire hazard of tanks in more detail later, but for now we can only note that without exception, all German tanks were equipped with carburetor gasoline engines, and in this respect were just as fire hazardous as the old Soviet tanks.

After the collapse of the USSR and the abolition of censorship, the official Soviet point of view was subjected to fair criticism, which, for obvious reasons, was not able to resist. But in the wake of this criticism, foam also surfaced in the form of the version of V. Suvorov (Rezun), who proposed his theory, which quickly gained popularity among the ignorant part of the public. He argued that Soviet tanks, both in quantity and quality, were significantly superior to German ones, and the main reason for the unsuccessful start of the war for the USSR was the two-week delay in the Soviet attack on Germany. Such an explanation is suitable only for lovers of utterly simplified answers to the most difficult questions. The theory of Suvorov (Rezun) has already been convincingly criticized many times, so we will not waste time arguing with him in this work. But it should be noted that his descriptions of Soviet and German tanks are quite consistent with Zhvanetsky's classic definition: "The concept of honesty is interpreted much broader: from some swindle and silence to full coverage of a major issue, but only from one side."

History has repeatedly shown that numerical superiority does not always guarantee victory in armed struggle. Much also depends on the qualitative balance of forces of the opponents. This fully applies to tanks. There are different, often directly opposite opinions on the topic, which tanks were better in the initial period of the Great Patriotic War - German or Soviet? To answer this question, we need to figure out what the tanks of the Wehrmacht and the Red Army of that time actually were, why they became exactly what they were, how many of them there were, how they can be compared with each other and what had a decisive influence on the results of their combat use. This work is dedicated to this.

Factors that determine the appearance of tanks

One of the most common misconceptions is the tendency to view the tanks of bygone days from a modern perspective and evaluate them using modern criteria. This approach has its attractive sides: firstly, it is simple, and secondly, it allows us to feel our superiority over the people of the past, who created and used the very tanks in which we today see many shortcomings and flaws. At the same time, the attribution of certain features of the tank to its shortcomings is often the result of an elementary misunderstanding of how, why and for what they were originally in it.

laid down.

It is often very difficult to determine the true advantages and disadvantages of certain tanks, especially since the same quality can be an advantage in one case, and a disadvantage in another. But most importantly, we must not forget that without exception, tanks of all times and peoples had both positive and negative qualities. Therefore, it is impossible to make hasty judgments, considering tanks only from one side, raising some of them on a pedestal and throwing others into the trash just on the basis of some of their individual characteristics taken out of context. Understanding the real advantages and disadvantages of specific tanks is much more difficult, but much more interesting and useful for understanding them. First of all, it is necessary to comprehend the purpose of the tanks. They are not things in themselves, but are tools used to achieve specific goals. They

are designed, as a rule, not by single geniuses, as God puts it on their souls, but by design teams in accordance with the technical specifications issued to them. Tasks for designers are formulated by the military, who need these tanks to solve the corresponding tasks. But we must not forget that the tasks of tanks are different in different countries and in different periods, besides, they change over time, so you must definitely understand what they were at the time of the creation of each

tank and what exactly it was intended for. Without this, it is impossible to understand why this tank was made this way and

not otherwise. Another important category that directly affects the appearance and design of the tank is the level of modern technology. And not only the abstract world level, but the production capabilities of each specific enterprise where it was planned to be released. This includes the number and qualifications of its personnel, the availability and capabilities of its equipment, financial resources, resources of time, raw materials, materials and components, opportunities for cooperation, etc., etc. It is very important to know the planned tank production program and the period that was released to her. Only taking into account the influence of all these factors makes it possible to understand the true reasons for the use of certain technical solutions incorporated in the design of the tank.

It will become clear how the same solution could be optimal for a particular plant at one time and completely unacceptable for it at another. Moreover, it could not be suitable for other factories of the same country and, to an even greater extent, for the industry of other countries. The best and most advanced design, which cannot be produced in the right amount of time and with the resources available, is only a waste of time, materials and money.

Finally, the third group of features that directly affect the design of any tank is related to its future use in the army. This includes the skill level of its future crews, the problems of its supply with fuels and lubricants, ammunition and spare parts, the expected service life and expected operating conditions of the tank and its associated reliability and durability, maintainability of both the entire tank and its individual components and parts, its unification with other equipment, etc., etc. It is easy to see that the more we delve into the study of factors influencing the creation of a tank, the faster their

number grows, and the complexity increases. Therefore, let's take a better look at those already listed and see how they work in practice. Let us dwell first of all on the appointment of tanks.

Purpose of tanks

Tanks appeared in the midst of the First World War. Their necessity was caused by the "positional impasse" in which the belligerents unexpectedly found themselves then. The no-man's-land, shot through with countless machine guns and shrapnel, entangled in thick rows of barbed wire, became an insurmountable obstacle to the advancing troops. Many kilometers of front lines froze in immobility along their entire length. Even a slight advance had to be paid with many thousands of lives. Such a price was clearly unacceptable, so the search began for a qualitatively new effective tool for breaking through the defense.

Tanks became this tool for the armies of the Entente countries. With their armor, they could cover the attacking infantry from enemy bullets, pave their way through wire obstacles and destroy with fire and caterpillars the enemy firepower that survived during the artillery preparation. Thus, the main purpose of the tanks was initially the direct support of the infantry in breaking through the enemy defenses. For this reason, they did not need special speed either, because an infantryman with full gear and weapons goes on the attack at an average speed of 4–7 km / h. The

close support of the infantry has long been the main task of tanks in most armies, where they were in service. In 1920, in France and the United States, the independence of tank troops was completely eliminated and they were transferred to the subordination of the infantry. In the French "Manual for the use of tanks" of the 20s, the following definition is given: "Tanks are

armored vehicles with mechanical traction, the purpose of which is to facilitate the advancement of infantry, crushing stationary obstacles and active resistance of the enemy on the battlefield ... They are only a powerful auxiliary means at the disposal of the infantry. Tanks must coordinate their combat work with maneuver and fire with the actions of the infantry.

The Soviet definition of the same period also echoes it: *“A tank is an armored combat vehicle designed to suppress enemy machine-gun emplacements and cover advancing infantry with a movable armor shield from machine-gun and mortar fire.”*

To solve these problems, the tanks were equipped with bulletproof armor and appropriate weapons: machine guns and cannons with a caliber of 20–57 mm. Guns of a larger caliber were not often mounted on tanks at that time, and if they did, short-barreled guns or howitzers with a low muzzle velocity were used. At the same time, due to the relatively small loads acting on the shells of such guns when fired, they could be made thin-walled and thus equipped with an increased explosive charge. In this way, the best fragmentation and high-explosive action of the projectile was achieved, which was necessary to combat the enemy's manpower, his firepower and light field fortifications.

To increase the fire density of tanks, they were often made multi-towered, and the towers were often placed side by side. This arrangement made it possible, when attacking enemy defenses, to concentrate all the fire in front of the tank, and when crossing an enemy trench, “comb” it with machine-gun fire simultaneously from both sides. Such tanks at that time were called “trenches cleaners”. Here is what he wrote about them

In 1931, the future Soviet Marshal M.N. Tukhachevsky, who then held the position of chief of armaments of the Red Army (original spelling preserved):

“... with regards to the English Vickers tank I recently examined, I found it to be the best suited for the task of escorting when attacking enemy trenches. The location of the tank turrets side-by-side very advantageously allows the tank to develop a strong side fire when crossing the trenches and trenches, from which the parapet does not cover in any way. At

this crucial moment, the tank seems to lack one more firing point in the form of a machine gun or a light cannon, directed forward along the way to suppress targets (such as a machine gun, a cannon) from the second line of defense ...

It is easy to understand that the two-tower and three-turret schemes were adopted by the British because they are very promising and most beneficial for overcoming enemy defenses among their infantry ... "

In our time, many people, comparing the tanks of bygone days, evaluate them primarily in terms of their ability to fight enemy tanks. This approach is fundamentally wrong, because before the Second World War, in most armies of the world, this task was to be performed by anti-tank artillery. The tanks had other primary purposes. Let's see how they were formulated in the Soviet textbook "Tactics of tank troops", published in 1940: *"Tank troops in the system of modern combined arms*

offensive combat are:

1) the most advantageous means for bypassing or enveloping the flanks of the enemy's defensive positions discovered or created by a breakthrough; 2) one of the

powerful means of breaking through the defensive location of the enemy; 3)

along with artillery and aviation, one of the means of simultaneously suppressing the tactical depth of the enemy's defense;

4) the active part of the anti-aircraft defense system of the advancing infantry

battle order. The tanks were supposed to fight the enemy's combat vehicles in the last turn and engage in battles with them only in cases where this could not be avoided. German tanks at the beginning of the war were used in this way. Here is how their actions are described by the Directive of the Commander of the North-Western Front No. 0127 of August 5, 1941 "On shortcomings in the use and actions of tanks together with combined arms formations and measures to eliminate them":

"Enemy tanks, as a rule, do not accept open combat with our motorized mechanized units, but seek to bring our tanks under the fire of anti-tank artillery and large-caliber artillery." And in the "Instruction on the

use of a tank brigade in the main types of combat" to the troops of the Western Front of September 27, 1941

It was said:

"The experience of military operations shows that German tanks, when our attacking tanks appear, retreat behind the battle formations of their infantry, which organized anti-tank defense."

At the same time, Soviet tankers, who had insufficient combat training, but high morale, tried to fight the Germans at every opportunity, while forgetting about their main tasks. This trend, dangerous for the success of the common cause, was noted in the order of the NCO No. 325 of October 16, 1942 "On the combat use of tank and mechanized units and formations." In particular, it was stated there: *"Tanks, acting together with infantry, have as their main task the destruction of enemy*

infantry and should not break away from their infantry by more than 200–400 m ... When enemy tanks appear on the battlefield, the main fight against them is carried out by artillery . Tanks

fight with enemy tanks only in case of clear superiority in forces and advantageous

provisions...

The corps should not engage in tank battles with enemy tanks if there is no clear superiority over the enemy. In the event of a meeting with large tank units of the enemy, the corps singles out anti-tank artillery and part of the tanks against the enemy tanks, the infantry, in turn, advances its anti-tank artillery, and the corps, shielded by all these means, bypasses the enemy tanks with its main forces and hits the enemy infantry in order to tear off it from enemy tanks and paralyze the actions of enemy tanks. The main task of the tank corps is the destruction of enemy infantry.

Only the British, before the Second World War, considered one of the main tasks of their tanks to fight enemy combat vehicles, therefore they armed them mainly with 40-mm cannons, the ammunition of which included only armor-piercing shells. At the same time, part of the pre-war British tanks were equipped with 76-mm howitzers. They had to support the rest, firing effective high-explosive fragmentation and smoke shells.

But the war had its own laws, and in the course of it tactics had to be changed. Growing tank saturation of troops of all belligerents

more and more often led to their clashes, which it was already difficult to avoid. Therefore, tanks began to adapt to the fight against their own kind and, first of all, to increase their firepower, equipping them with long-barreled guns with a high muzzle velocity. And for German tanks, the main task, starting from the middle of the war, was the fight against the rapidly growing in number and constantly improving in quality Soviet combat vehicles, and their appearance, accordingly, changed dramatically. However, this happened later than the period described in this article. At the beginning of the Great Patriotic War, the criteria for the quality of tanks were still different.

Tank troops of Germany

Structure and organization

The choice of targets by tanks on the battlefield is, of course, important - but even more important is the choice of strategy and tactics of tank troops. In the period between the world wars, both in the USSR and in Germany, the most serious attention was paid to the use of tanks in future battles. In both of these countries, tank troops were assigned an independent role: they had to not only help their infantry to break through the enemy's defenses in depth, but also smash his rear, tear communications, envelop and surround his groupings. This is clearly seen in the German textbook on command and control of the 1930s. He argued: *"If tanks are used in too close cooperation with*

the infantry, they lose their advantage in mobility and are subject to destruction by the defenders." Please note: this does not completely deny the need to support the infantry with tanks, but the

very possibility of subordinating them to the infantry, as was done in the American and French armies, is unequivocally rejected.

In the German army, almost all battle tanks from the very beginning were included in independent mobile formations - tank divisions. The exception to this rule were the five so-called "light" divisions. They were conceived as a kind of transitional link between the cavalry and tank troops, but did not last long, only a year and a half, and were all reorganized into tank ones. It was the tank divisions that were assigned the decisive role to achieve victory in the

planned "blitzkriegs". At the same time, in addition to tanks, which, of course, were the main striking force of these formations, they organically included infantry, sappers and artillery, including anti-aircraft and anti-tank. Their importance and necessity is sometimes underestimated, and all attention is paid only to tanks. This is an absolutely erroneous approach - after all, along with

With their undoubted advantages, tanks also have many disadvantages that prevent them from operating successfully.

on one's own.

For example, tanks can capture territory, but are unable to completely clear it of the enemy and hold it. Tanks are very vulnerable in close combat, especially in closed areas and in populated areas. Many obstacles frequently encountered on the ground, such as wide ditches, ditches, ravines, streams and soft soils, not to mention rivers, canals, swamps, mountains and special anti-tank barriers, make it impassable for them. Tanks are capable of delivering effective direct fire, but they are not the best suited for fighting targets beyond visibility, for destroying fortifications and for conducting mounted fire. In addition, they are practically defenseless against enemy aircraft. Therefore, it is understandable why the effectiveness of tanks increased many times when the sappers available in the tank divisions paved their way through obstacles and obstacles, the artillerymen supported them with fire, the anti-aircraft gunners covered them from the air, and the infantry relentlessly accompanied them in battle.

An integral part of the Wehrmacht's tank divisions were anti-tank units. It was they who were primarily intended to fight enemy combat vehicles and made it possible for their own tanks not to be distracted from their main tasks - making deep breakthroughs, enveloping and encircling the enemy and defeating his rear.

It is very important that the infantry and convoys of the tank division were transported by trucks, and its artillery had a mechanized draft. Thus, all units and units that were part of the formation did not lag behind the tanks - of course, provided that they were moving on roads. This gave the division the opportunity to act autonomously, to carry out swift and deep maneuvers and immediately after them to engage in battle in full force. Moreover, this happened very quickly, for example, according to the standards, a German tank regiment completely deployed from marching columns into battle formations in no more than 25 minutes. In order to improve the

interaction between the artillery of tank divisions and their tanks, the artillery observers of their artillery regiments received

special combat vehicles. They were obsolete command tanks or armored personnel carriers. Armor protection allowed them to move after the attacking tanks and timely detect targets and threats on the battlefield. Observers immediately concentrated artillery fire on the most important objects and corrected its results.

In the Wehrmacht, a field-proven system of direct air support for ground forces existed and was widely used. Aviation guidance officers, as a rule, personally took part in the offensive, being in the second echelon of the attackers in the commander's tank, equipped with radio stations that made it possible to maintain contact with both ground and air commanders. If necessary, they called the aviation and gave it detailed information about the location and nature of the targets, landmarks, weather conditions and possible countermeasures. After the planes took off, they established direct two-way communication with them and guided them to the targets. The air controllers themselves were Luftwaffe officers and knew very well the possibilities of aviation and the peculiarities of its use. In essence, air support then played the role of long-range and self-propelled artillery in the German tank divisions.

Luftwaffe planes not only covered their troops from air attacks and destroyed enemy forces and strongholds that hindered the advance of their units. They also conducted reconnaissance in great depth, providing their army command with the most valuable information about the location, number and composition of enemy forces. No less important, especially for the advancing mobile troops, was the knowledge

about the state of the terrain, roads and bridges over which they had to pass. In addition to radio communications, the Wehrmacht widely used a system of conditional signals, which the pilots promptly sent from the air to their ground forces using multi-colored rockets. For example, a red flare meant the detection of anti-tank positions, and a purple flare warned of the appearance of enemy tanks. A green rocket was fired to signal the release of a written report. These could be maps with the operational situation just applied, just

developed on the basis of aerial photographs or just notes. They were placed in special cylindrical containers that contained sources of yellow smoke, allowing ground troops to easily detect them. The forward German units often received intelligence information from their aircraft earlier and in a more complete manner than the command of their units and formations. And this was quite justified: the information went directly to those who needed it in the first place, without delay in higher authorities.

In turn, the ground forces also used a system of conditional signals for aviation. First of all, they had to identify themselves, so as not to be attacked by their own by mistake. For this, flags and large strips of white matter, clearly visible from the air, were used. Special combinations of these bands signaled the need for an urgent airlift of weapons, ammunition, fuel, food or equipment. As a rule, such applications were immediately fulfilled, although the ordered cargo dropped by parachute did not always reach the desired addressee in conditions of mixing friend and foe, which are not uncommon for maneuverable combat operations.

Ground reconnaissance in the tank divisions of the Wehrmacht was carried out by a regular unit - a reconnaissance battalion. He usually moved in the vanguard of the division, sending patrols far ahead and to the sides on motorcycles, cars, armored vehicles or half-tracked armored personnel carriers. The main task of the scouts was to detect the enemy, find vulnerabilities in his defenses, find ways to bypass and cover him, capture bridges and important road junctions and hold them until the main forces approach, etc., etc.

Thus, reconnaissance was conducted by the Germans actively and continuously, from the air and on the ground. Timely reliable information about the enemy and the terrain ahead allowed German commanders not only to move forward at random with their eyes closed, as their Soviet opponents often had to do, especially at the beginning of the war, but to make decisions based on real knowledge not only of their troops, but also enemy troops, and the terrain on which hostilities unfolded. This gave them the opportunity in a rapidly changing combat

environment to achieve maximum results at the lowest cost. To ensure effective

interaction between combat vehicles, units, units and formations of the Wehrmacht, there was a sufficient amount of communication equipment, including radio stations. The creators of the German mobile troops early realized the importance and necessity of equipping them with radio communications, without which successful independent actions, coordination of efforts and mutual assistance in battle are impossible. Without exception, all German tanks were equipped with either transceiver radio stations, or only receivers. Transmitters were not originally installed on all tanks, not only for reasons of economy. The Germans had reasonable fears that the crews of radio-equipped vehicles would fill the air with empty chatter, in which important messages and orders could be lost. Therefore, in 1940-1942, only about 45% of German tanks had transmitters. These were the tanks of company commanders, platoon commanders and their deputies, as well as special command tanks, which will be discussed in more detail below.

The organization of German tank divisions was constantly improved taking into account combat experience, and by the beginning of the Great Patriotic War was close to optimal for that period. It is interesting to follow the dynamics of its development. Just before the outbreak of World War II, the first five German tank divisions had an average of 340 tanks each. During the campaign in the West in the spring of 1940, their average number in 10 tank divisions participating there decreased by 24% - to 258 pieces. From August 1940 to January 1941, the Germans carried out a profound reform of their mobile troops. The number of tank divisions was doubled to 20, while the total number of tanks in them did not increase so significantly. Thus, the average number of tanks in 17 German tank divisions of the active army before the attack on the USSR fell by another 20% - to 206 vehicles.

The opinion is often expressed that by doing so the Germans significantly weakened the striking power of their tank divisions, and the only reason for this was the lack of combat vehicles. Of course, the Germans constantly lacked the latest tanks, which is why they

I had to use in the first line obsolete by that time light tanks Pz.I and Pz.II, and captured Czech Pz.35 (t) and Pz.38 (t). But the main reason for the reorganization was the results of a thorough analysis of the combat experience of using mobile troops in Poland and France. They showed that the panzer divisions of the original organization were overburdened with tanks and lacked the infantry needed to support them in battle. In addition, the massive introduction of the new Pz.HI and Pz.IV into the troops, significantly superior to light tanks in armor and armament, made it possible to actually significantly increase the strike power of tank divisions with a smaller number of combat vehicles in their composition. At the same time, the optimal ratio between tanks and motorized infantry in them made it possible to use this power more fully.

It is significant that both the USSR and its Western allies came to a similar ratio of tanks and infantry in their tank formations by the middle of the war and kept it after it ended - and after all, they had much more tanks than the Germans.

Another positive consequence of the centralized use of tanks was the reduction of their irretrievable losses. The fact is that a tank is a heavy and complex combat vehicle that needs an uninterrupted supply of ammunition, fuel, lubricants and spare parts, constant care and maintenance, timely evacuation and repair in case of breakdowns and combat damage. If tanks are dispersed into small groups and single vehicles over a large area, then in conditions of intense hostilities, repairmen and tow trucks will often not have the time and opportunity to get to many out-of-service or even simply stuck vehicles. As a result, a tank that has lost its course for any reason that cannot be eliminated by the crew is lost forever. With the massive use of tanks as part of tank divisions, they, as a rule, did not break away far from their mobile supply bases and could quickly receive the necessary assistance from repair units. In the German tank forces, there was a clear system for servicing equipment, as well as repairing and restoring vehicles that failed due to breakdowns and combat damage. She started

from small divisions. Each tank company included a 19-man repair section led by a non-commissioned officer. At first, their main equipment was a light 1-ton half-track tractor and a truck with spare parts. Later they received a second half-track tractor of the same type and 2 repair "flyers". The staff of the tank regiments had a repair company of 120 to 200 people, depending on the composition of the regiment and the types of tanks it was armed with. The company consisted of a headquarters, 2 repair platoons, an evacuation platoon, weapons and radio equipment repair sections, and a spare parts section. The company was equipped with 8 repair "flyers", 12 heavy 18-ton half-track tractors, 4 tank transporters, 2 self-propelled 3-ton cranes, 2 electric generators on trailers, metal-cutting machines, tools and fixtures, equipment for gas and electric welding, a forge etc. Separate tank battalions were given repair platoons, numbering from 50 to 120 people. In addition to full-time units, the Wehrmacht had separate repair and evacuation companies that were in the reserve of the command of the ground forces, which were transferred to the armies and army groups for use in the most important sectors of the front.

The company repair sections were engaged in not too laborious repairs that required the expenditure of time - in most cases up to half a day. For more serious work, the failed tank was evacuated to repair shops deployed on the basis of a regimental repair company. Its personnel and equipment made it possible to simultaneously restore up to 30–40 tanks. Typically, repairs there lasted up to two weeks, although sometimes in the case of waiting for the necessary spare parts, this time stretched up to a month. In especially difficult cases, tanks had to be sent to tank repair plants located in the deep rear, which returned

them to service even after very severe damage. But only about 5% of damaged tanks were sent to the rear, and the vast majority of vehicles were repaired at the front. The lack of material resources forced the Germans to invest huge efforts in the restoration of out-of-combat tanks. Repaired tanks were a significant source of Wehrmacht replenishment throughout the Second World War.

Their number was especially significant during the period of the German offensives, when the battlefield remained behind them, and no one interfered with the evacuation of the wrecked tanks.

The personnel of the German tank forces underwent comprehensive training and for the most part had fresh combat experience by 1941. It is important to note that the Germans ordered as many tanks for their industry as they could provide with trained crews. All their divisions and units were coordinated in exercises and in battles and worked out a clear interaction both within themselves and among themselves. To strengthen the strike power of tank divisions, they were consolidated into tank corps, which included not only tank, but also motorized divisions. These formations were not armed with tanks - but, thanks to the full provision of road transport, they were not inferior in mobility to tank divisions and were able to work closely with them.

Finally, 4 tank groups were formed from the German tank corps to carry out Operation Barbarossa, led by competent, experienced, enterprising, decisive and battle-tested military leaders. Of no small importance was the flexibility of the organizational structure of the German

tank forces. The composition of their tank groups and corps changed depending on the tasks performed. In the divisions, in accordance with the current situation, combat groups of various configurations and numbers were created. They, if necessary, included a variety of units. Even the states of the German tank divisions were not uniform: in fact, each of them had its own characteristics, reflecting its traditions and materiel. Thus, divisions armed with mostly light tanks in 1941 had a three-battalion organization of their tank regiments, and divisions equipped with medium tanks - basically two-battalion. This made it possible to roughly equalize their strength. The high level of organization, equipment, training and control made the Wehrmacht's tank forces an extremely serious and dangerous enemy and created strong prerequisites for their future success.

History of Wehrmacht tanks

The tanks, which were in service with the Wehrmacht, fully corresponded to the then German concept of their use. When creating the first combat vehicles in Germany, their mobility and firepower were put at the forefront. It was believed that the thickness of the armor would be quite sufficient if it would make the tank invulnerable to armor-piercing bullets fired from ordinary rifle-caliber machine guns. Mainly, it was machine guns that made the front static during the First World War - therefore, according to the theorists of the time, bulletproof protection was supposed to restore lost mobility to the troops.

Anti-tank guns did not seem to be a particular problem, because they were much inferior to machine guns in number and rate of fire. Theoretical developments showed that a German battalion of 100 tanks, attacking on a front 500 meters wide, was able to break through the defenses of the then French infantry division, which was armed with 72 anti-tank guns. And this is even under the assumption that each artillery shot will hit the target. The estimated loss of 50% of the machines in this scenario was considered quite acceptable. The bloody experience of the First World War clearly dominated the people who made such a conclusion, when even 90% losses of the attackers did not seem excessive to achieve a breakthrough of the front.

After the defeat in the First World War, according to Article 171 of the Treaty of Versailles, Germany was prohibited from producing or importing armored vehicles, tanks and similar vehicles suitable for use in war. But already in 1925, the Germans began to secretly violate this restriction, starting work on a project code-named "Grosstraktor" or "big tractor". Its result was 6 tanks, the assembly of which was completed by the beginning of the summer of 1929. These were purely experimental vehicles built from conventional

structural (not armored) steel at Daimler Benz, Rheinmetall and Krupp. It was impossible to test tanks in Germany, so at the end of June of the same year, the Germans sent them to the USSR, where, on the basis of the Moscow Treaty of 3

On December 1926, the Kama tank school was secretly organized near Kazan. In addition to training Soviet and German cadets, the first German tanks of the interwar period were tested there. In May 1930, 4 more tanks arrived at the school, built by Krupp and Rheinmetall as part of the Leichttraktor (light tractor) project. The Germans carefully analyzed the results of their tests and made very important conclusions regarding not only the technical, but also the tactical aspects of the tanks. The main ones were the following: 1. The tank commander must be completely released from performing all other functions, in addition to

command. In "Leichttraktor" the commander acted part-time as a loader. This led to a slowdown in the rate of fire, and to the difficulty of detecting targets and threats on the battlefield, and to the loss of interaction with others.

tanks.

2. The tank commander should be provided with a special commander's cupola with all-round visibility for observing the surrounding area. The usual periscope is not enough for him. 3. It is necessary to

install a rotating floor in the tower, on which the loader will stand. It is especially necessary in the case of using the power drive of the tower, which significantly accelerated its rotation. 4. The place of the gunner should be as close as

possible to the center of gravity of the tank. This will reduce the vibrations of his body during the movement of the car and create better conditions for him to observe the battlefield and aim. 5. The habitable space of the tank must be spacious enough for its crew. This greatly

increases the efficiency of his work. All these conclusions formed the basis for the design of subsequent models of German medium and heavy tanks and largely contributed

to their future success. After the cessation of the work of the Kama school in 1933, the tanks returned to Germany, but their fate did not end there. Four Grosstraktor tanks manufactured by Krupp and Rheinmetall, as well as all Leichttraktor samples, were repaired and subsequently used not only for training tankers, but also for testing new tactical and

technical solutions. On May 16, 1933, a proposal was discussed to test a new and still unexplored, but promising torsion bar suspension on the Leichttraktor and Grosstraktor. On one of the "Leichttraktor" an individual independent spring suspension was tested, which became the prototype of the suspension of the first "triples".

The first large-scale German light tanks Pz.I were created primarily to prepare the industry and the German armed forces for the production and use of future generations of more powerful tanks. The cheapness and simplicity of their design allowed the Germans to quickly organize their mass production. But the path to the conveyor was not easy. The development of a new tank, codenamed "Kleintraktor", which means "small tractor", began in 1930. The chassis was ordered by Krupp. To speed up the work, it was decided to copy the suspension of the English Carden-Loyd tankette, which was advanced for that time. For this, 3 Carden-Loyd chassis were purchased from Vickers in England through an intermediary. The first of them arrived in Germany in January 1932, and the next two arrived in October of the same year. But the Krupp engineers did not wait to receive them, but developed the design of the suspension themselves, using only photographs and drawings of the English counterpart. The construction of the

prototype was delayed due to the outbreak of the global economic crisis, which prevented the Krupp plant from working rhythmically. Only at the end of July 1932, the construction of a prototype chassis was finally completed, and it was shown to the officers of the Wehrmacht's Ordnance Department. In comparative tests conducted at the Kummersdorf test site, the Kleintraktor chassis demonstrated an advantage over the Carden-Loyd. The tests lasted about 4 months, during which the chassis covered 1800 kilometers and underwent numerous modifications. After their completion on March 20, 1933, Krupp received a contract for 5 chassis, which were handed over to the customer in July-August of the same year. Only one of them was made of high-hardness chromium-nickel armor steel and subjected to test firing with armor-piercing bullets from distances of 30 m. The rest, to save money and speed up production, were built from ordinary structural steel and are intended only for military

tests. In the spring of 1933, the issue of equipping the Kleintraktor chassis with a torsion bar suspension was repeatedly considered, but everything ended with some conversations.

In July 1933, the Ordnance Department ordered the first series of 150 chassis without turret and weapons, which were given a new code name - "Landwirtschaftliche Schlepper" (abbreviated as La.S). This name translates as "agricultural tractor", but the troops called it "Krupp-Traktor" after the name of the manufacturer. Germany then still tried to hide its violations of the Treaty of Versailles, which strictly forbade her to build tanks.

The release of the first series was completed before October 1934. Interestingly, in addition to Krupp, 5 more companies received orders for 3 chassis each. So the Nazis who came to power began to prepare the German industry for the production of tanks, which they needed for future conquests. All vehicles were sent to tank schools and were used for a long time to train future German tank drivers. Along with the development of the chassis, the

design and superstructures with weapons went on. Variants with a 20 mm anti-aircraft gun, a 37 mm anti-tank gun and a mortar were worked out, but none of them left the preliminary design stage. Since June 1932, work began on a turret with twin machine guns of conventional caliber. It was conducted on a competitive basis by the firms Krupp and Daimler-Benz. The Ordnance Department constantly changed its requirements and could not make the final choice of the turret design. Finally, in July 1933, Krupp received an order for 150 sets of turrets and turret boxes for the machines of the first series. The firm had vast experience in producing heavy to medium thickness armor for the navy, but making high-hardness 13mm bent welded armor plates proved to be a challenge. Conducted on January 22, 1935 at the Kummersdorf firing range, shelling tests revealed that the armor did not meet the requirements of the military: it was too fragile and cracked from bullet impacts. Therefore, in February 1935, the order was cancelled. Nevertheless, Krupp was ordered to make 20 sets of turrets and turret boxes from ordinary, not armored steel for training tanks. As a result, Krupp-Traktor never

received weapons. Moreover, unlike all other German tanks, these chassis were not equipped with any means of radio communication. But for the planned

tank divisions of the Wehrmacht, at least some material part was urgently required. At the beginning of 1934, it was planned to order 200 La.S of the second series from Krupp, and then switch to the production of La.S. 100, the future Pz.II. But its development was delayed, and the army no longer wanted to wait, so in July 1934, 1000 combat units were ordered at once. Towers for them, armed with twin rifle-caliber machine guns, were developed by Daimler-Benz. With such weapons, Pz.Is were not suitable for an anti-tank role, but they were quite suitable for combating manpower and unarmored vehicles. The German Minister of War Blomberg gave this order the highest priority over all other military projects. In addition to Krupp, production was carried out by MAN, Rheinmetall, Henschel and Daimler-Benz. The average monthly output was 60 tanks in 1935 and about 70 in 1936. This was not a bad achievement, considering that no company had previously produced large series of tanks. By August 1, 1935, 318 tanks were ready, and by the end of this year

there were already 720 of them. The units immediately went to equip the German tank divisions, the formation of which began on October 15, 1935. The first two divisions reached a state of combat readiness already on April 1, 1936, and just six months later another one was added to them. In the future, Pz.I has undergone significant modification. Its need was caused primarily by the obviously insufficient specific power of this tank - only 11 hp. per ton of weight. The Maybach company managed to create a 100 hp engine, which, together with a radiator and a fan, was placed in the existing engine compartment of the unit. He replaced the old 60-horsepower engine. An ordinary sloth was added to the suspension of the tank. Previously, its role was played by the last oversized track roller. The new model was designated Pz.I Ausf.B. Their release began in the summer of 1936. Production of the Pz.I finally ceased in June of 1937 after the production of 1,175 Ausf.A modifications and 15 command tanks based on them, as well as 399 Ausf.B modification vehicles and 184 command tanks based on them.

At the end of 1933, it became obvious to the German leadership that the planned entry into the troops of medium tanks, which were supposed to make up the majority of Wehrmacht combat vehicles, was hopelessly late. Under these conditions, the only possible solution involuntarily suggested itself, which made it possible not to disrupt the deadlines for the formation of new German tank units and formations and their preparation for a future war. This decision was the creation, as another temporary measure, of another light tank, which previously received the designation La.S.IOO, and after being put into service was named Pz.II. The prototype of its design was, of course, the Pz.I, in comparison with which it was somewhat increased in size and, accordingly, in weight. The main difference of the new machine was a more spacious turret, which made it possible to significantly strengthen its armament: an automatic 20-mm cannon took the place of the left machine gun. The gun was designed for a powerful anti-aircraft gun cartridge and was a fairly effective weapon for its caliber. They tried to install it on the Pz.I back in 1932, but it turned out to be too small for it.

Cannon armament was chosen not only to give the "deuce" the opportunity to fight enemy tanks, although this was one of her appointments. Artillery shields were powerless against her shells. It was they, and, above all, light rapid-fire anti-tank guns, that were reasonably considered the most numerous and dangerous opponent of tanks of that time. The gun ammunition included armor-piercing and high-explosive fragmentation shells. In July 1934, the German Ordnance

Office ordered several companies to develop a new light tank. Already at the beginning of next year, Krupp and Daimler-Benz presented their samples to the army. In addition to them, MAI and Henschel built only the chassis without turrets and weapons. As a result of the tests, the choice fell on the chassis of the MAI company and the body developed by Daimler-Benz. In October 1935, the first prototype was successfully tested, made of ordinary structural steel, not armored steel, and the first experimental series of 10 tanks was immediately ordered. Further, for almost a

year and a half, only 100 "twos" were produced, which were, in essence, pre-production

samples necessary for debugging their design and production technology. A common drawback of all these machines was the outdated dependent suspension, which did not allow them to fully use their high-speed qualities on rough terrain. Therefore, on the latest small-scale tanks, an improved independent suspension on quarter-elliptical springs appeared. With her Pz.II and went into large-scale production. It began in March 1937 and continued until April 1940. During this time, 1256 of these tanks were built. Subsequently, several smaller series of "twos" were released, mainly for arming reconnaissance units and flamethrowers. Pz.II was not distinguished by any original technical solutions that had an impact on world tank building and did not gain special fame for itself. He did not fight in the Spanish Civil War either, contrary to the claims of some authors. But during the German campaigns against Poland and especially France in 1939-1940, it was the "twos" that were the most numerous German tanks on the battlefields, the real "workhorse" of the Wehrmacht tank divisions. So this "unfamous" tank at that time managed to play a major role in the theater of operations and compensate the Germans for the lack of medium tanks - and after that it gradually disappeared from the scene.

Work on the future medium tank Pz.HI began at the end of 1933. Initially, he received the code name "ZW" or completely "Zugfuhrerwagen", which means "combat vehicle of the platoon commander." In December 1935, Daimler Benz won a contract for 25 pilot tanks. They were equipped with Krupp turrets. On April 3, 1936, the tank received the official name "Panzerkampfwagen III". But large-scale production was delayed due to the lack of knowledge of its design. Another 3 years were spent on the production of test batches and the consistent improvement of the tank.

The armament of the "triples" of the first small series had an interesting feature: 2 machine guns were paired with a cannon at once, and the third was installed in the tank hull. The vehicles were protected only by 14.5 mm bulletproof armor and did not have high mobility, especially on rough terrain, due to

imperfect pendants. In fact, with each new early modification of the Pz.HI, the Germans continued to look for the best version of the tank, suitable for the production of a mass series. Finally, in December 1938, the production of the first truly successful modification

of the Pz.III Ausf.E began. Its features were 30 mm armor, a 10-speed semi-automatic transmission, as well as new suspension and tracks with rubber cushions and lubricated joints, which increased the maximum speed of the tank to 67 km/h. A compact independent torsion bar suspension made it possible to free up space in the sides of the hull for additional hatches through which the driver and radio operator could leave the tank if necessary. This model became the basis for all further releases of the Troika, but its release began more than a year later than planned due to difficulties in fine-tuning a number of new advanced solutions used in its design. The first Pz.HIs had a 37 mm cannon as their main armament, but from June 1940 the transition to a much more powerful 50 mm gun with a barrel length of 42 calibers began. In October 1940, starting with the Ausf.H, to facilitate production, the 10-speed gearbox was replaced by a simpler and cheaper six-speed gearbox, which was a variant of the Pz.IV gearbox. As a result, the maximum speed of the tank dropped to 40 km / h, but combat experience by that time convincingly showed that in real conditions the tank very rarely had to gain its maximum speed, and for the most common speed range of six gears

quite enough.

Close acquaintance of Soviet specialists with the latest German tanks for the first time occurred in September 1939. Then, during a campaign in Poland, the Red Army managed to steal from the neutral zone separating the Red Army and the Wehrmacht, two tanks lined by the Poles - Pz.II and Pz.HI. Both of them were taken to the USSR and studied at the scientific and test armored (NIBT) training ground in Kubinka. The first of them, as one would expect, did not make a special impression, but the second acquisition turned out to be much more successful. Judging by its description, it was the latest Pz.III Ausf.E. The tank was dismantled, thoroughly examined by specialists

polygon and deserved their highest praise. I especially liked his commander's cupola, observation devices, gearbox and even a jack. It was not possible to test the driving performance of this tank, since its engine was disabled, and some of the tracks were lost. But his armor was carefully tested - both by shelling and by analysis of samples. At the

same time, very unexpected and unpleasant news was discovered: the main Soviet tank and anti-tank 45-mm gun at that time pierced German 30-mm cemented armor with high surface hardness and a viscous rear part only from close distances, no further than 150–300 m, and even then at the limit. The culprits for this were defective armor-piercing shells fired in a large batch in 1936-1939. They were so overheated that they became too brittle and shattered on impact with hard armor before they had time to overcome it. This happened due to a violation of heat treatment technology, which was allowed at the plant in pursuit of the number of shells fired. Measures were taken to eliminate the causes of the marriage, and it stopped, and the defective shells were corrected by the introduction of special Hartz localizer undercuts, named after their inventor, into their design. But this happened after the start of the war, in the autumn of 1941. In 1940, the Soviet military and engineers had an even better opportunity to

study the latest "troika". According to the economic agreement between the USSR and Germany of February 11, 1940, the Soviet Union provided for the purchase of German industrial equipment and military materials. Among them, the Pz.HI tank was also ordered. It differed from the sample examined earlier only by a more powerful 50-mm cannon and reinforced frontal armor 60 mm thick. Apparently, it was one of the newly upgraded Ausf.F or G models with additional armor plates in front. In the period from August to November 1940, he passed joint tests with Soviet tanks at the Kubinka training ground. At a measured kilometer, this car even blocked its official maximum speed, developing 69.7 km / h. The fastest of the Soviet tanks in these tests was, of course, the BT-7, but even on wheels it managed to reach only

68.1 km/h T-34 then managed to gain only 48.2 km / h. The excellent driving performance of the Pz.II is easily explained, because its chassis was developed by the world's oldest automobile company, Daimler-Benz, the creator of the famous Mercedes. But the greatest impression on the testers from Kubinka was deservedly made by the torsion bar suspension of the "troika", its optical instruments, commander's cupola, evacuation hatches, convenient placement of ammunition and radio stations, thoughtful layout of fuel tanks and cooling systems, successful engine and transmission. The engineering solutions incorporated in the Pz.II had a strong influence on the design of the Soviet T-50 tank, which was to become the most massive tank in the Red Army. But the war prevented this ...

Further development of the Grosstraktor line led to the appearance of the Pz.IV medium tank. But before him, from 1934 to 1936, the Rheinmetall and Krupp firms produced 5 three-turreted Neubau-Fahrzeug tanks, which means "new construction machine". Based on the test

results in Kama, already in October 1932, the basic requirements for a medium tank weighing 15 tons were developed, which was originally called the Mittlere Traktor (medium tractor). In the process of working on the machine, its weight increased to 18 tons. The development was entrusted to the Rheinmetall and Krupp firms. Rheinmetall designed the chassis and turret, while Krupp only designed the turret. As a result, from 1934 to 1936, 5 Nb.Fz tanks were built, and the hulls and turrets of the first two of them were made of ordinary structural steel, not armored steel.

Three of these tanks, equipped with real armor, subsequently took part in the battles against the British in Norway in April 1940 as part of a platoon attached to the 40th separate tank battalion. In a report on their use, the commander of this battalion, Volkheim, positively noted the ability to simultaneously fire at several different targets due to the presence of two additional machine-gun turrets. One of the "Neubau-Fahrzeug" once got stuck in the marshy ground and, when trying to get out of it, was hopelessly broken. The Germans did not have enough powerful tractors to rescue the tank, and the car had to be blown up.

One of the remaining machines of the same type, built of ordinary steel, was sent to replace it - but by that time the hostilities in Norway had already ended, and the Neubau-Fahrzeug were used mainly for propaganda. Their photographs were often placed in the German press to create the illusion that there were numerous heavy tanks in the Wehrmacht. Photos of their construction at the plant were published many times. The Nazi deception was a success: both Soviet and American intelligence at the beginning of 1941 reported to their leadership about the production of heavy tanks Pz.V and Pz.VI in Germany. In fact, nothing like this existed then, it was just that the Neubau-Fahrzeug tanks with different variants of the Rheinmetall and Krupp turrets were mistaken for them. The familiar Pz.V "Panther" and Pz.VI "Tiger" appeared much later and had nothing in common with them, except for the designations. The test results of the Neubau Fahrzeug did not satisfy the Wehrmacht's Ordnance Department, so the requirements for the next tank were radically revised. First of all, it was decided to abandon the use of low-speed aircraft engines, which were equipped with "Grosstraktor" and "Neubau-Fahrzeug", and to design a special tank engine, economical, light and reliable. The number of its maximum revolutions was doubled to gain weight in the transmission. The Maybach company received a contract for its development and production. The end result of her work was a 11.9-liter, 12-cylinder, water-cooled gasoline engine that had a rated power of 265 hp. With. at 2600 rpm and could develop 300 hp for a short time. With. at 3000 rpm. It became the most massive engine of German medium tanks and self-propelled guns of World War II. The second significant design change was the transfer of the drive wheel forward. This solution had its drawbacks - after all, the wheel

became more vulnerable to enemy fire, and the transmission had to be driven to it through the entire tank, making it heavier and taking up space in the fighting compartment and the control compartment. But the German designers felt that the following advantages of such an arrangement more than compensate for its shortcomings:

1. The caterpillar, after breaking off the ground and before engaging with the drive wheel, travels a long way along its entire length

tank. At the same time, it vibrates and self-cleansing. Thus, the drive wheel wears out less and is not clogged with dirt and stones.

2. The upper branch of the caterpillar, being under tension from the side of the drive wheel, "beats" less during movement, so the caterpillar is less likely to fly off the tank on the go. And its lower branch without this tension adapts better to surface irregularities, although the rolling resistance increases slightly. 3. Transmission control is greatly facilitated, because both the

gearbox and the final drives are in close proximity to the driver, so long control rods that go from him to the transmission mechanisms in its rear location become unnecessary. Friction between these rods and their guides, as well as the inevitable backlash in their connections, lead to an increase in effort on the control levers and increase driver fatigue.

4. The placement of heavy transmission units in the nose of the tank shifts its center of gravity forward and makes it possible to position the turret in the middle of the tank. This reduces the scope of its oscillations in motion and improves the working conditions of the crew, and also makes it easier to place the hatches of the driver and gunner-radio operator in front of the roof of the hull. In addition, as a result of the displacement of the tower back, the forward-directed gun protrudes less than the tank, which improves its overall maneuverability. The

new combat vehicle initially received the code name "BW" or completely "Begleitwagen", which means "escort vehicle". Already from this name it is clear that it was created to support light tanks and medium Pz.III tanks in battle. To do this, she received appropriate weapons, which consisted of a 75-mm gun with a relatively short barrel length of 24 calibers and 2 machine guns. A gun of large caliber for that time could successfully solve fire tasks that were impossible for machine guns and small-caliber cannons that other German tanks were armed with: suppress enemy entrenched infantry and its fire weapons, destroy enemy artillery, primarily anti-tank, and destroy light field fortifications. Low

loads on the projectile during the shot made it possible to make it thin-walled and increase the bursting charge. Thus, the high-explosive and fragmentation action was enhanced. An armor-piercing projectile was also produced for this gun. It had a low initial speed and therefore relatively low armor penetration - but it was quite enough for the tanks of that time, most of which were protected only by bulletproof armor.

On April 3, 1936, the tank received the official name "Panzerkampfwagen IV". Initially, it was intended to arm companies of medium tanks planned to form future tank battalions. This combat vehicle was destined to remain in production throughout the Second World War and become the most massive German tank in history.

The old rivals, Rheinmetall and Krupp, again fought for the contract. The Rheinmetall engineers took the path of least resistance and used in their tank a complex and expensive suspension borrowed from the Neubau-Fahrzeug. Krupp developed a new original chassis, but did not forget about unification: it used an electric turret drive from the same Neubau Fahrzeug, took the design of viewing slots from the Pz.HA, and borrowed the shape of the turret, commander's turret and hatches from the Pz.III. The original project called for an additional machine gun turret on the right front of the tank, but this was soon abandoned in favor of a conventional ball machine gun mount, also unified with the Pz.HI. Krupp won the contract, and on April 30, 1936, its first prototype was ready for testing.

Particular attention in the course of testing the prototypes of the future "four" was paid to the suspension of the new tank, because it had a direct impact on the speed of its movement on the ground and the convenience for the crew. On two prototypes, 5 different suspension options were tested, until they settled on a scheme of four supporting and eight road wheels, interlocked in pairs on quarter-elliptical leaf springs. The use of shock absorbers for multi-leaf spring suspensions is not necessary, because vibrations are damped in them due to the friction of the sheets between themselves when the spring is bent, so they were not on the "four".

The suspension of the Pz.IV remained virtually unchanged throughout the long life of the tank. The story of how and why this happened is interesting and instructive. One of the options tested was an advanced torsion bar suspension for that time. Its feature is low internal friction, so the need to use shock absorbers to quickly dampen the vibrations of the tank hull that occur during movement was immediately revealed. Usually, shock absorbers are installed only on the outer rollers of the suspension, where their effectiveness is highest. Not having the necessary experience with torsion bar suspensions at that time, Krupp's designers put them on each roller and, moreover, chose shock absorbers with insufficient energy intensity, which quickly overheated and failed in motion. The suspension turned out to be clearly unsuccessful. Because of this first negative experience, Wölfert, the chief designer of Krupp tanks, developed a strong prejudice against torsion bar suspension, and he has since strongly opposed its use. On June 1, 1937, the Wehrmacht Ordnance Department instructed Krupp to carry out deep standardization of their Pz.IV with

Pz.HI from Daimler-Benz. Both tanks were produced in parallel, were in the same weight category and were equipped with the same engine, so the decision to unify their chassis naturally arose. Krupp was ordered to stop all work on the further development of the hull, power plant and suspension of the "four" and to complete the second series of these tanks, which had already begun production - Pz.IV Ausf.B. For the next modification of the Ausf.C, it was planned to use the chassis of the fourth series of the "troika" - its model Ausf.E. But everything turned

out to be not as simple as planned: fine-tuning the numerous innovations embedded in this chassis did not go as fast as the German planners would like, and in May 1937 it turned out that the first prototypes would be ready at best in April next year. Taking into account the time needed to prepare for production, this meant that the production of the Pz.IV would have to be interrupted for at least 8 months. Hitler's Germany at that time was in full swing preparing for war, and such losses of the most important products for future "blitzkriegs" were considered unacceptable.

Therefore, on June 21, 1937, the Wehrmacht Ordnance Department sent a new instruction to the Krupp company: to start production of the next series of "fours" immediately after the completion of the current one.

The outbreak of World War II forced Krupp specialists to work feverishly, primarily on strengthening the armor and armament of tanks and increasing their output. As a result, the Germans never got around to improving the suspension of the Pz.IV, and it remained archaic throughout the war. This story illustrates well that not only objective, but also subjective factors sometimes have a decisive influence on the design of a tank. The Pz.IV tanks proved to be excellent in battles in Poland

and France, but they were clearly not enough among the troops. At the same time, even after the start of World War II, their release was too slow; for the entire 1940, only 268 "fours" were built in Germany. This was clearly not enough for Hitler's appetites, so on August 20, 1940, he transferred the production of "triples", "fours" and command tanks to a special level of importance by special order. Despite this measure, only 188 Pz.IVs were produced in the first half of 1941. The average monthly increase in production compared to 1940 was 40%, but this was still far from enough to, as the Germans intended in July 1941, to bring the number of their tank divisions to 36. To equip them, it was necessary to have 2160 Pz. IV. These plans, fortunately, were not destined to come true.

German tank commanders received special command tanks at their disposal. The first among them were 15 vehicles made on the basis of the Pz.I Ausf.A in the summer of 1935. Instead of a rotating machine-gun turret, they were equipped with a small fixed cabin and equipped with transceivers. They did not have weapons. The first pancake turned out to be lumpy: these 2-seater tanks turned out to be cramped and uncomfortable, and the commander had to constantly be distracted from his duties to work on the radio. Therefore, in the future, on the basis of the next model - Pz.I Ausf.B - new command vehicles began to be produced, which were distinguished by a much more spacious cabin, in which there was room for an additional crew member - a radio operator, and for

machine gun in a ball mount. They were received by the commanders of all German tank battalions and regiments, as well as their deputies. In addition, one such tank was in the headquarters of tank brigades and divisions. Since June 1938, command "troikas" began to come to the troops. Unlike linear tanks, their turret was tightly screwed to the hull and could not rotate, and a dummy barrel was installed in place of the gun. It served only as a camouflage to prevent the enemy from detecting the command tanks and destroying them in the first place. The space freed from weapons and ammunition was used to install a powerful additional radio station. Most of the commander's "units", which were replaced by "troikas" as they became available, were transferred to the artillery regiments of tank divisions as artillery spotting fighting vehicles even before the victory over France. There were no tanks for direct infantry support in the Wehrmacht at all, but to assist

their soldiers going on the attack, Germany created a fundamentally new means of combat - self-propelled assault guns. Their ancestor was Colonel Manstein, the future field marshal. In 1935, he proposed introducing into each infantry division a division of armored self-propelled guns intended for direct support of the infantry, and he himself came up with their name - "assault guns". This name appeared for a reason: full armor of considerable thickness for that time and a low silhouette made them hard to hit on the battlefield and allowed them to

operate successfully in the forward attack echelon. The main armament of the first modifications of the assault guns was a 75-mm cannon with a barrel length of 24 calibers, similar in ballistics to the gun mounted on the Pz.IV medium tank. Her shells were effective enough to deal with enemy infantry and their firepower, and German assault guns were not originally intended for the anti-tank role. In June 1936 they were officially ordered. The Krupp firm became responsible for the development of the gun, and Daimler-Benz designed the chassis and conning tower based on its Pz.HI tank.

An experimental batch of 5 cars was released next year. The first four of them received wooden cuttings in April and May, and the last received steel cuttings in July 1937. The development of new machines continued for quite a long time, and only in October 1939, Daimler Benz completed the construction of five more ordered assault guns of the installation series with cuttings made of structural rather than armored steel. They were never used in combat, but were used only for testing, as well as for training and education of crews.

Finally, on October 13, 1939, Daimler-Benz received an order for the first series of 30 vehicles. They were commissioned from December 1939 to April 1940. The first 4 batteries, each armed with 6 assault guns, took part in the French campaign in 1940. The last 6 vehicles of the first series were handed over to the SS regiment "Leibstandarte Adolf Hitler", but they did not have time to take part in the battles before the end of the campaign. Subsequent series of assault guns were ordered from Alkett, because Daimler-Benz was loaded to capacity with tank production. Essentially, the German assault guns were turretless tanks, not just cannons on self-propelled chassis. Due to the lack of a rotating turret, they, of course, did not have such rapid fire maneuver capabilities as tanks had, but they were in no way inferior to them in mobility and security. At the same time, assault guns cost about a quarter cheaper than the average Pz.HI tank, on the basis of which they were produced. During the long war of attrition, low price was a very important quality, so the production of assault guns in Germany was constantly growing and in 1945 even overtook the production of tanks. During the victorious wars in 1939-1940, the Germans got huge trophies, including about

3 thousand serviceable tanks. But only a very small part of them went into service with the Wehrmacht. Using foreign tanks was not at all easy. It was necessary to establish their supply with special ammunition and spare parts. We needed fuels and lubricants, often different from German standards. There was a need to create a system for the maintenance and repair of captured tanks, to train their crews and technical personnel, etc., etc. In addition to all these difficulties, most foreign-made tanks do not

met the German tactical requirements for these combat vehicles. For example, in French tanks, the turret was single-seat, and their commanders in battle had almost no opportunity to engage in their main duties, because they had to be combined with the functions of a loader and a gunner. The modification of tanks to bring them up to Wehrmacht standards was time consuming and

expensive, so they were used mainly as chassis for self-propelled guns, tractors and ammunition transporters. Perhaps the most famous example of the use of captured tanks in the Wehrmacht is the conversion of 60 French B1 and BI bis tanks into flamethrower ones. As part of the 102nd separate battalion, 30 of them participated in the breakthrough of Soviet fortified areas. But they fought there for a very short time - by July 17, 1941, an order was issued to disband this battalion. Formally, the Germans considered them not even tanks, but special combat vehicles, and therefore were not part of the tank divisions.

The Germans handed over a certain number of trophies to their allies. Sometimes they built these tanks into permanent fortifications as fixed firing points, equipped them with armored train turrets, or put the tanks entirely on railway platforms, thus turning them into armored platforms. A lot of captured tanks were simply shot at the training grounds for training German tankers and gunners. The Germans used only an extremely limited number of them, although for their intended purpose, but to perform auxiliary functions - such as training cadets of tank schools, fighting partisans, guarding important rear facilities, for example, headquarters, railways and airfields, etc. and etc. In addition to German-made tanks, only Czech tanks were widely used in the Wehrmacht, so it is necessary to briefly dwell on them. Not everyone knows that both before and during the First World War, the factories of the Czech Republic were the main forge of weapons of the Austro-Hungarian Empire. Heavy siege weapons, produced by the Czech company Skoda, participated in the shelling of Belgian forts and the French fortress of Verdun. Before World War II, Škoda was the second largest arms manufacturer in Europe. The Czechs had a long and well-deserved reputation

manufacturers of high-quality and advanced weapons for their time, primarily small arms, artillery pieces and tanks, which they sold to many countries of the world, including England, Germany, Switzerland, Sweden and the USSR. Skoda built the prototype of its first tankette in 1931.

At the same time, another Czech company, ČKD, also produced the wedge. And on April 23, 1934, the ČKD handed over its first 6 light tanks LT vz.34 to the army. But the first really successful sample of the Skoda tank was created in the summer of 1935. It was adopted by the Czechoslovak army under the name LT vz.35. Already on October 30 of the same year, the Czechoslovak Ministry of Defense ordered 160 of these tanks, and a total of 298 of them were paid for and built. The last 3 were handed over to the army on April 8, 1938. It is interesting that, according to the agreement, exactly half of them were manufactured by the ČKD company, Skoda's rival in the competition for the creation of this tank. The tank

aroused great interest in several countries at once, including England. In 1937-1939, 126 LT vz.35 tanks were built for Romania, and another 10 for Bulgaria in 1941. The USSR also negotiated its purchase. Two copies of this tank were tested at the Soviet test site in Kubinka from September 14 to October 11, 1938. LT vz.35 made the most favorable impression on Soviet specialists, but the deal still did not take place. The fact is that the USSR expressed a desire to buy only one tank. The Czechs, on the other hand, quite reasonably suspected that, following his model, the Soviet Union would be able to mass-produce such machines, and offered the Soviet representatives to buy a license for their production. The agreement was never reached, but the tank still served the cause of the development of domestic tank building. It was secretly measured by a group of designers from factories No. 185 and 37, and it was decided to use its most successful components for Soviet developments - such as suspension, gearbox, turning mechanisms, seals, observation devices, sights and internal intercom.

The unique feature of this tank was its pneumatic control. The driver actuated the steering mechanisms, clutch and brakes not directly, but through valves that control

executive pneumatic cylinders. This greatly reduced the effort required to drive the tank. For example, with the pneumatics on, it was necessary to apply a force of 20 kilograms to the turning levers, and without it - already 65. The pneumatic system was quite complicated, but under normal conditions it worked very reliably. True, severe frosts put her out of action. Caterpillars LT vz.35 were able to cover 6500 kilometers. This was an outstanding figure for a time when even a quarter of the run was already considered an excellent result. The 37 mm cannon of this tank approximately corresponded in terms of armor penetration to the German 37 mm tank gun. Frontal armor 25 mm thick was impenetrable for 20 mm armor-piercing projectiles. The Germans captured 244 serviceable LT vz.35s

in Czechoslovakia and renamed them Pz.35(t). The letter "t" in their designation was an abbreviation of the German word "tschechisch", which means "Czech" in translation, and the number 35 denoted the year they were adopted by the Czechoslovak army. By the way, some unfortunate specialists, based on such a designation, considered it to be 35 tons, although it weighed only 10.5 tons. In order to bring the Czech tanks closer to their standards, the Germans made some improvements to them. The most significant was the introduction of a fourth person into the crew - the loader - and the replacement of the Czech radio station, capable of operating only in telegraph mode, with a standard German one, providing telephone communications. An additional radio station was installed in the tanks of the company commanders, and in order to make room for it, the front machine guns were removed from them. Command vehicles at the level of battalions and regiments received a more powerful additional radio station, but instead of a gun, they only had a mock barrel. In addition, command tanks were equipped with gyrocompasses. Without exception, all Pz.35(t) tanks were in service with the German 1st Light Division, which on September 12, 1939 was reorganized into the 6th Panzer Division. The operation of the LT

vz.35 in the Czechoslovak army revealed not only its advantages, but also its shortcomings. The main ones were low speed on rough terrain due to an outdated blocked suspension, insufficient range and tightness. Therefore, on November 20, 1937, a competition was announced in Czechoslovakia to create a new

light tank. A convincing victory on it was won by the TNHPS model of the ChKD company, which, after being put into service, was given the official name LT vz.38. The first 150 new tanks were ordered on 20 April 1938. Other companies joined in to speed up production, the main ones being Skoda, Tatra and Walter. The last tank from this order was delivered on November 23, 1939. But Czechoslovakia was occupied by Germany

even before the first LT vz.38s were ready. All these vehicles were captured by the Germans and received the designation Pz.38(t) in the Wehrmacht. Their production continued until June 1942. In total, 1396 of these tanks were produced during this period, and another 37 were made by order of Slovakia. Subsequently, a whole family of military equipment was created on the Pz.38 (t) chassis: tank destroyers, reconnaissance vehicles, self-propelled howitzers and anti-aircraft guns. The last 20 anti-tank self-propelled guns based on it were delivered to Switzerland on February 16, 1950. Interestingly, the chief

designer of the LT vz.38 was the Russian emigrant Alexander Surin, who got a job at the ChKD in the early 1920s. He managed to create an outstanding model of a tank for its time, compact (weighing less than 1 ft), easy to operate and very reliable, with an excellent combination of security, armament and mobility. The best evidence of this is the fact that the tank itself and the combat vehicles created on its basis were in production for more than 10 years - a considerable period for that time. Surin used the most advanced units in the power plant of his tank: a license for a planetary gearbox was bought from the well-known English company Rolls-Royce, and the engine was of Swedish origin, from Scania. 475 tanks of the first four series, produced before November 1940, carried 25 mm frontal armor, the same as on the LT vz.35. On subsequent modifications, the thickness of the forehead was brought up to 50 mm, first by installing additional 25 mm plates, and then by thickening the main armor. The gun mounted on the LT vz.38 had a caliber of 37 mm, but it was approximately 20% superior to the German 37-mm tank gun in terms of armor penetration. The Germans took measures to adapt the Pz.38 (t) to their requirements, similar to those

which were previously introduced by them on the Pz.35(t). These tanks in 1941 were in service with five German tank divisions: 7th, 8th, 12th, 19th and 20th. Czech combat vehicles played a very important role in the battles of 1941. Suffice it to say that at that time they accounted for more than a third among the Wehrmacht tanks armed with guns of 37 mm caliber and more.

A feature of Czech tanks was the widespread use of rivets in the assembly of their hulls and turrets, while welding was used for this on Soviet and German tanks of that time. Each of these processes has its own advantages and disadvantages. The advantages of welding are higher labor productivity and ensuring the tightness of the joints, which is very important for a tank operating in a variety of conditions. But at the same time, overheating of the armor during welding in the area of welds weakens its protective qualities. Riveting is more labor intensive and requires highly skilled assemblers, especially to make its joints waterproof. The Czechs had no shortage of experienced and skilled riveters, and the hulls of their tanks were sealed to a level of 1 m above the ground, and the rivets themselves, made of special steel, were sufficiently resistant to bullets and

fragments.

German tanks in combat before 1941

German tanks were baptized by fire in Spain. In total, 102 linear and 4 commander units took part in the civil war on the Iberian Peninsula. In Spain, the Pz.I had a chance to collide with Soviet-made BT-5 and T-26 tanks armed with 45-mm cannons. The machine guns of German tanks could penetrate the armor of these opponents with armor-piercing bullets only at distances of less than 150 m. At a greater distance, the "ones" could only try to evade the shells of enemy tanks by energetic maneuvering, quickly find shelter or simply flee. In order to give the Pz.I units the opportunity to fight the cannon tanks of the Republicans, each of their companies were given 5 anti-tank guns. In 1938 in

of both 3-company tank battalions available to the Francoists, one of the companies was equipped with captured Soviet-made tanks equipped with guns. On April 20, 1937, the

French newspaper "LTn-transigent" published an article about the experience of the Spanish Civil War. There, in particular, it was said: "German tanks

became a big disappointment (crew of 2 people, speed of 50 kilometers per hour, 2 machine guns, almost useless armor). No protection from anti-tank gun fire or armour-piercing bullets fired from handguns. This experience forces the German High Command to reconsider its policy. The German Panzer Division suffered a setback even before it began its service. French tanks, although slow, but much better protected, remain the "kings of the battlefield."

Just 3 years later, the all-destroying tank wedges of the Wehrmacht convincingly proved to the French the fallacy of this point of view. Its authors simply did not understand that the use of Pz.I in Spain was not at all a test of the German tactics of using tank divisions. First of all, they were too small for this and fought in groups of no more than a company, accompanying the infantry on the battlefield as mobile armored machine-gun points. Such actions had nothing to do with the massing of tanks as part of tank divisions, where they closely interacted with all branches of the armed forces. The

blitzkrieg tactics were first demonstrated in practice during the German attack on Poland in September 1939. On the eve of this event, the Wehrmacht was armed with 3472 tanks: 1445 Pz.I, 1223 Pz.II, 202 Pz.35(t), 78 Pz.38(t), 98 Pz.III, 211 Pz.IV and 215 command tanks. The Germans threw at the Poles all the combat-ready tank formations and units they had at that time: 7 tank divisions, 2 of which were not even fully formed yet, 4 light divisions, as well as a separate tank regiment and a separate tank battalion. They included 2690 tanks, including 973 Pz.I, 1127 Pz.II, 112 Pz.35(t), 55 Pz.38(t), 87 Pz.III, 198 Pz.IV and 138 command tanks. The battles ended in a quick and convincing

victory for Germany, but German technology did not prove to be as brilliant as German

tactics and operational art. All Wehrmacht tanks originally had only bulletproof armor. Their main defense on the battlefield was supposed to be speed and maneuver, but this was clearly not enough. During the month of fighting, 819 German tanks were lost, of which 236 were irretrievably lost. Polish anti-tank rifles proved to be a

much more dangerous adversary for tanks than had been imagined before the war. It is their own Germans to establish the production of anti-tank rifles in Germany and to strengthen the armor of their tanks. The Ones did not have weight reserves for additional armor, so they began to be gradually converted into ammunition transporters and self-propelled guns. Additional 20-mm armor plates were installed on the forehead of the "twos" and assault guns. And the Germans thickened the armor of the "triples" and "fours" in production to 30 mm even earlier. On May 1, 1940, the German army had 3465 tanks. This number consisted of 1077 Pz.I, 1092 Pz.II, 143 Pz.35(t), 238

Pz.38(t), 381 Pz.III, 290 Pz.IV and 244 command tanks. For the campaign in the West, which began on May 10, 1940, Germany, as part of 10 tank divisions, concentrated 2582 tanks, including 554 Pz.I, 920 Pz.II, 118 Pz.35 (t), 207 Pz.38 (t), 349 Pz .III, 280 Pz.IV and 154 command tanks.

The fighting lasted 6 weeks, and the victory cost the Germans dearly. Only 839 tanks were irretrievably lost - almost a third of the total number involved in the battles. Another 11 had to be written off after the fighting in Norway. 54 German tanks fought there as part of the 40th separate tank battalion, which included 29 Pz.I, 18 Pz.II, 3 Neubau-Pz.Ppfw.IV and 4 command tanks. In addition, 5 tanks were lost on a transport ship sunk on the way to Norway. Such heavy losses forced the Germans to take emergency

measures to further enhance the protection of their combat vehicles. The last major series of "twos" - Pz.II Ausf.F - received frontal armor 30–35 mm thick. From August 1940 until the

In 1942, the modernization of the previously released Pz.III Ausf.E, F and G was in full swing. They were re-equipped with 50-mm guns 42 caliber long. The frontal armor of their hull and turret box was

reinforced with additional 30 mm armor plates. As a result, the total thickness of the armor in these places was brought up

to 60 mm, and they became impenetrable for the most common at that time 37 mm and 45 mm anti-tank guns.

Pz.III Ausf.H was upgraded in a similar way at the factory during the production

process. In the design of the next series of "triples" - Ausf.J - recent combat experience was fully taken into account from the very beginning. The turret, turret box and hull in front of them were protected by 50-mm cemented armor, approximately equal in strength to the previous composite 60-mm armor. Additional 30-mm armor plates in the front were installed on both the previously produced Pz.IV Ausf.D and Pz.IV Ausf.E, which were already in production. A further modification of the "four", Pz.IV Ausf.F, immediately received 50-mm cemented frontal armor, impenetrable to 37- and 45-mm armor-piercing shells. The German assault guns were protected in front with the same armor. On June 1, 1941, the Wehrmacht had 5162 serviceable tanks, of which 877 Pz.I, 1074 Pz.II, 170 Pz.35 (t), 754 Pz.38 (t), 350 Pz.III with a 37-mm gun, 1090 Pz.III with 50mm cannon, 517 Pz.IV and 330 command tanks. Of these, for the operation "Barbarossa" the Germans concentrated 337 Pz.I, 756 Pz.II, 155 Pz.35 (t), 625 Pz.38 (t), 259 Pz.III with a 37-mm cannon, 707 Pz.III with a 50-mm cannon, 439 Pz.IVs and 224 command tanks, for a total of 3502 tanks in 17 tank divisions. Of the 377 assault guns available, the Germans allocated 272 to support their army infantry units and formations, and another 18 were included in the combat units of the SS.

It is significant that the "ones" that were obsolete by that time, which did not have weight reserves for modernization, were mostly withdrawn from the first line. Only the newly formed 12th, 19th and 20th Panzer Divisions, due to a lack of better tanks, had a total of 126 Pz.Is in their tank regiments. A total of 26 such tanks were in service with the tank regiments of the 9th, 12th and 18th tank divisions. The remaining 185 of these tanks of this type, which took part in the war on the Eastern Front, were in service with companies, which were included one by one in the engineer battalions of each of the German tank divisions. At the same time, all such tanks, except for the vehicles of company commanders, were equipped

a device at the stern for transporting and dropping explosive charges weighing up to 50 kilograms. They were used to destroy obstacles and barriers on the battlefield, so it was possible to drop the charge to the right place from inside the tank. It

should be noted that it was the sapper "units" that became the main source of discrepancies in the number of German tanks assembled for Operation Barbarossa, which are often found in historical literature. Some historians do not classify them as battle tanks on the grounds that they were not part of tank regiments, and consider them to be specialized engineering vehicles. From our point of view, this is not true - after all, the installation of the above-described device on the Pz.I had practically no effect on its combat capabilities.

Soviet tank troops

Structure and organization

In the Red Army in the pre-war period, the development of tank forces proceeded in a much more tortuous way. Initially, the main task of the Red Army tanks was the direct support of infantry and cavalry in battle. Tank subunits were supposed to be included in the composition of rifle and cavalry units and formations or kept in the reserve of the High Command for use in decisive sectors of the front. In the late 1920s, the theory of a deep offensive operation was developed in the USSR. Such an operation consisted of breaking through the enemy's defenses to its full depth and further developing success by introducing a mass of mobile troops into the breakthrough - tanks, motorized infantry and cavalry, which went into operational space. Their actions were to be supported by aviation, and airborne landings were planned behind enemy lines in order to defeat his reserves. In the light of this concept, it became necessary to organize independent formations of mobile troops. The first such formation was a mechanized brigade, created in May 1930 on the initiative of K. B. Kalinovsky. After

his death in a plane crash in 1931, the brigade was named after him. In the autumn of 1932, the first two mechanized corps were formed in the Red Army, and in 1934 two more were added to them, one of which was deployed on the basis of the Kalinovsky brigade. In addition to them, in 1932, 5 separate mechanized brigades were formed, and by 1935 their number was increased to 14. In 1938, there were already 26 mechanized and armored brigades in the Red Army, as well as 7 tank and reserve tank brigades. In 1938-1939, 28 mechanized brigades armed with BT and T-26 tanks were called light tank brigades, and 4 tank brigades equipped with T-28 and T-35 tanks were called heavy tank brigades. At the same time, the mechanized corps was renamed tank and reorganized.

But the very first practical experience of their use during a campaign in Poland in 1939 turned out to be unsuccessful: it turned out that these formations turned out to be cumbersome and difficult to control. Instead of improving their structure, it was decided to disband the tank corps. The brigade again remained the highest formation of the Soviet tank forces. But the

impressive results of the 1940 campaign in the West forced us to reconsider this situation, and in June 1940, the formation of 8 mechanized corps of the new organization began. It was a timely and correct decision, which had a solid material base. The USSR then had a sufficient amount of military equipment, equipment and transport for their full complement. Enough for them and trained personnel and officers. In October 1940, their formation was basically completed, and People's Commissar of Defense S. K. Timoshenko, together with the Chief of the General Staff K. A. Meretskov, proposed the formation of another mechanized corps. But on February 1, 1941, Meretskov was

replaced by G.K. Zhukov, and already on February 12, the General Staff led by him presented a new mobilization plan to the Soviet leadership, according to which the number of mechanized corps was brought to 30. The formation of all the missing corps began immediately, but to complete it before the war, it was no longer there was no time, no equipment, no trained personnel. The problem was exacerbated by the fact that a huge number of tanks, about 31,000, were required to equip these numerous powerful formations. It was necessary to build at least 15 thousand tanks of a new type alone. If the pace of tank production that existed in 1941 was maintained, it would have been possible to fully equip all the mechanized corps only by the end of 1943. The colossal resources of the Soviet industry were loaded to the limit with the manufacture of tanks, and the need for the production of off-road vehicles and heavy payloads, armored personnel carriers, tractors, self-propelled artillery and anti-aircraft installations was underestimated, so they were produced very little or not at all. The creation of precisely 30

mechanized corps was justified very simply. The Soviet military command at that time estimated the number of tanks in service with a potential enemy - the German

armies - 10 thousand pieces. In reality, there were about half of this number, but in the USSR it was then assumed that the Germans would adopt captured French tanks. In fact, as we have already noted, they did not meet German requirements and were used very little in the Wehrmacht, and even then mostly not on the front line, but in the rear, to fight partisans. But for planning a future war, the figure of exactly 10 thousand enemy tanks was taken as the basis, and then by simply multiplying by 3, the number of our own needed to fight them was obtained. From here they came to the need to have 30 mechanized corps in service, approximately 1000 tanks each. After all, it is well known that for a successful offensive it is necessary to create a threefold superiority in forces and means.

But it was simple arithmetic, which Zhukov knew, and reality required much deeper knowledge that he did not possess. The level of his education in no way corresponded to the position of Chief of the General Staff. In 1906, Zhukov graduated from the 3rd grade of a parochial school, and from his military education he had a four-month school for non-commissioned officers in 1916, six months of study at the 1st Ryazan cavalry courses in 1920, one-year cavalry advanced training courses for command personnel, completed in 1925, and a three-month advanced training course for senior officers in 1930. The leadership of the General Staff - the brain of the Red Army - was entrusted to a man who had studied in his entire life for a total of a little more than 5 years. He never graduated from the academy.

Moreover, on November 8, 1930, the future Marshal of the Soviet Union K.K. Rokossovsky, who then commanded the 7th Samara Cavalry Division, which included Zhukov's 2nd Cavalry Brigade, wrote a certification on him with a clear military conclusion: *"It can be used with the benefit of the case as a division commander or commander of a mechanized unit, subject to passing through the appropriate courses. He cannot be appointed to staff or teaching work - he organically hates it."* This recommendation was carried out exactly the opposite: Zhukov was no longer sent to any courses, but a few years later he was appointed to lead the headquarters, and not just a simple headquarters, but the General Headquarters.

Zhukov himself, in his post-war memoirs, was forced to admit: "However, we did not calculate the objective possibilities of our tank industry." The decision to mass form mechanized corps without an appropriate material base and trained personnel was a huge mistake, which entailed the most serious consequences. In pursuit of quantity, quality has once again been neglected. In order to somehow equip the numerous mechanized corps, combat-ready tanks were collected from wherever they could. To speed up the creation of new mechanized corps, tank divisions from among those previously created were transferred to them. Their full-time tank battalions were withdrawn from rifle divisions. Worst of all, units and formations that were more or less cohesive and had practical experience of joint operations were disbanded. Freshly baked formations

simply did not have time to acquire it and were formations only in name. This is especially true for units equipped with the new T-34 and KV tanks. Almost none of the crews of the new tanks

passed coordination even as part of a platoon and company, not to mention more. According to the replenishment training program, it was planned to complete the training in the mechanized corps: a single soldier and crew - before July 1, 1941 for a platoon - before August 1, a company - before September 1, and a battalion - before October 1, 1941. The war that began on June 22 corrected plans...

And the structure of even those formations in which the number of tanks could be brought up to the regular strength was far from optimal. To develop a rational organization of the Soviet tank forces, it took its own long and bloody experience of a big war. The Soviet leadership did not have such experience at that time, so the mechanized corps were heavily overloaded with tanks, and at the same time, for successful operations, they were severely lacking in infantry, artillery, transport, communications and repair facilities, and most importantly, qualified personnel.

They had only 22-40% of the required command staff. Understaffed and undertrained Soviet formations had to enter the war, not yet being ready for it. As a result, numerous and formidable on the paper of the mechanized corps of the Red

armies quickly died in border battles, failing to inflict tangible damage on the Wehrmacht.

The situation was aggravated by insufficient training, and often simply by the technical illiteracy of the personnel of the Soviet tank troops. Most of the population of the USSR then lived in rural areas, and the level of education of conscripts from there left much to be desired. For the most part, before joining the army, they did not even use a bicycle, not to mention motorcycles and cars. Therefore, they did not always follow the rules for handling military equipment that was too complicated for them, did not understand the importance of its timely maintenance, and often made gross mistakes in handling it. For example, at the beginning of 1941, there were cases when tankers unknowingly refueled the T-34 with gasoline, thereby putting its diesel engine out of action. They were also clearly not trained enough, the mechanics-drivers of the "thirty-fours" had practical driving experience for 11 hours at best. The mechanics of drivers of heavy KV tanks had this experience for at least 30 hours - but they acquired it mostly on T-27 wedges, which were almost 20 times lighter than the KV. The reason for this is easy

to understand, given the system adopted in the Red Army before the war for saving motor resources of equipment. According to it, for the combat training of tankers, mainly the vehicles of the combat training fleet were used, which included the oldest and soon to be decommissioned tanks. Only they were allowed to operate indefinitely until they were completely worn out. Approximately a quarter of all tanks were "combat-ready reserve", intended for use in exercises. For 5-8 years of such service, it was allowed to spend no more than 50% of their motor resources. Tanks of new releases (not older than 5 years) were mostly mothballed and intended exclusively for war. It was strictly forbidden to operate them without the order of the head of the military district in order to avoid damage to the material part. For the entire time of their service, it was allowed to spend no more than 20% of their motor resources, and even then only during the check of the combat readiness of the units. They began to remove new tanks from conservation by order only after the start of hostilities.

At the forefront was the saving of material resources, while the training of the crews was clearly underestimated. But any of the best technology is dead without people who know how to master it perfectly. As of June 1, 1941, only 70 KV and 38 T-34s were used in the combat training parks of the western military districts, while the rest were mothballed. At the same time, 545 KV and 969 T-34s were in service in these districts! Moreover, the operating instructions for the new tanks were not transferred to the units, because by order of the General Staff itself, the KV and T-34 were considered "top secret" vehicles. Therefore, the documentation for them was kept at the headquarters of the mechanized corps "behind seven locks" and was issued to tankers only for the duration of the classes against signature, and it was strictly forbidden to outline it. The low degree of training of Soviet tank drivers at the beginning of the war was noted in his diary by the chief of staff of the German ground forces, Franz Halder. The crews of old tanks, as a rule, owned their combat vehicles much better than the tankers who fought on the T-34 and KV. The

Red Army also lacked spare parts for the existing equipment. In the USSR, priority has always been given to the production of basic products and obviously insufficient attention to the supply of spare parts. In 1941, the production of spare parts for the T-28 tanks and M-5 and M-17 engines was completely stopped, and for the T-37A, T-38, T-26 and BT tanks it was reduced. This happened because by that time they were no longer built, and all the resources of the tank industry were thrown into the manufacture of the T-40, T-34 and KV, to prepare for the production of the T-50, as well as to produce spare parts for new tanks. The previously accumulated stocks of spare parts for the most massive Soviet pre-war T-26 tanks were almost completely used up during the Finnish War, so in 1941 the construction of a spare parts plant for the T-26 in Chkalovsk had to be urgently started. In 1941, funds for spare parts for tanks were allocated in the amount of only 46% of the estimated needs. Not only were there not enough spare parts, but also the necessary materials, machine tools and tools, so the plan for the repair of equipment in the first half of 1941 was only 45-70% fulfilled. But it was still peacetime, when the volume of repair work was much less than those that had to be faced in the war.

The picture was no better with the equipment necessary to ensure the actions of the tanks. The pre-war Red Army had only 41% of trucks, 34.7% of mobile repair shops, 18.5% of gas tanks and 28.2% of mobile charging stations from the state of wartime. They, in turn, also lacked spare parts. All the stocks of tires available to the People's Commissariat of Defense were used up during the fighting in Mongolia, Poland and Finland, and for the first half of 1941, tires were allocated only 37% of the annual application. It was planned to reduce the shortage of trucks in the army with the start of the war by mobilizing them from the national economy, but from the experience of the Polish and Finnish campaigns it was already well known that most vehicles would arrive in poor technical condition and with worn out tires - after all, civilian organizations, for obvious reasons, would try to leave the best technique for yourself. In fact, it turned out even worse, because due to the rapid offensive of the Wehrmacht, a significant part of the civilian equipment simply did not have time to get into the army, and many army vehicles and special vehicles were lost in the very first days of the war. It must, of course, be taken into account that despite the huge number of tanks in service with the Red Army, it was still less than required and amounted to 61.4% of the wartime staff. Thus, the shortage of

personnel and equipment, based on the available tanks, was about one and a half times less than the regular one, but this did not improve the overall bleak picture much. It should be noted that not all pre-war Soviet tanks were assembled in mechanized corps, but only a little more than 70% of them. The rest were in rifle, motorized rifle and cavalry divisions, airborne corps, rifle brigades, fortified areas, educational institutions, parts of the navy and the people's commissariat of internal affairs. But they were dispersed into relatively small groups and did not have a noticeable effect on the course of hostilities.

could.

The organizers of the Soviet tank forces early appreciated the importance of equipping tanks with radio communications. Back in 1929-30, transceivers were installed on 4 Russian-made MS-1 tanks and on captured tanks: 2 French

"Renault" FT-17 and 5 British Mk.V, which in the Red Army was called "Ricardo" by the name of their engine. Another 16 MS-1 received radios. But by the time the war began, the development of modern means of communication in the army could not keep up with the rapid growth of its ranks. For example, in the management of the 3rd Army, which covered the western border in the Grodno region, there were only 3 radio stations that were defeated on the very first day of the war.

The lack of radio stations was not the only problem, because even the available ones were often not used. Many signalmen simply could not really master the equipment that was too complicated for them and, with inept operation, quickly disabled radios or power supplies for them. There were also cases of deliberate breakdowns of radio stations by tankers who tried to hide their own illiteracy by referring to the poor quality of the equipment entrusted to them. At the same time, there was an acute shortage of qualified radio equipment repairmen. In the report on the exercises conducted on the eve of the war, in May 1941, unflattering conclusions were drawn:

"The level of training of signalmen working in radio networks does not meet the requirements of NGOs ... Graduates of military communications schools do not know modern means of communication, and they do not know how to use materiel ... All the noted shortcomings are especially felt when working to ensure offensive battles."

To top it all, many Soviet commanders at that time simply did not trust radio communications, believed that it only unmasked their command posts, and preferred to use their usual wire phones and communications delegates in the old fashioned way. But in a mobile warfare, these means of communication were very unreliable and could not provide the necessary efficiency and uninterrupted transmission and receipt of vital information. A feature of the Soviet radio-equipped tanks produced in the 30s was the installation of

a handrail antenna on the tower. She was visible from afar and immediately gave out command vehicles. The experience of fighting in Spain and at Khalkhin Gol showed that the enemy, first of all, tries to disable tanks with antennas and thus deprive the tankers of control. Therefore, in 1939 it was decided

the decision to remove handrail antennas from all tanks and replace them with whip antennas, which had both less visibility and lower cost. But they did not have time to fully implement this measure before the start of the war.

Another "Achilles' heel" of the Red Army in the Battle of the Border was intelligence - or rather, its completely unsatisfactory organization. The command often did not have information about the enemy or received them very late, when they were already hopelessly outdated. But in large numbers there were reports of non-existent German landings and mythical German tanks where they had never been. On the basis of this false information, wrong decisions were often made, forces were dispersed, the limited motor resource of equipment and fuel and lubricants was wasted uselessly, a few roads were clogged, and quite often a real panic arose. We have already noted the

insufficient armor penetration of Soviet 45-mm shells. There was another problem with 76-mm armor-piercing shells: they were sorely lacking, because for a long time it was believed that 45-mm guns were enough to deal with any enemy tanks. The production of 76-mm armor-piercing shells in the

USSR was established only shortly before the start of the war, and they simply did not have time to accumulate sufficient stocks of them. If the provision of the Red Army before the war with 45-mm armor-piercing shells reached 91%, then for 76-mm it was only 16%. For each 76-mm divisional or tank gun, on average, there were only 12 armor-piercing shells. In some border military districts, the situation was even worse. For example, in Zapadnoye Osovoy, there were 9 armor-piercing shells per 76-mm cannon, and in Leningradskoye - even less than one. But for some reason, the Odessa Military District received 34 76-mm armor-piercing shells for each gun of this caliber. Thus, most of the divisional guns and tanks T-34 and KV were not provided

with armor-piercing shells even for the minimum requirements. Shortly after the start of the war, on July 2, 1941, the Main Armored Directorate (GABTU) of the Red Army applied for 292,000 76-mm armor-piercing rounds for

completion of tanks in the period July-September 1941. But then there was simply nowhere to find such a quantity, and not only because of the lack of necessary reserves. Industry, too, was still unable to meet the colossal needs of the front. Before the war, the production of 76-mm armor-piercing shells was carried out only at three factories: in Moscow, Leningrad and Donbass. The plant from the Donbass was evacuated to the rear at the beginning of the war and temporarily stopped production, and the Moscow one managed to launch mass production only in December 1941. Other plants were also involved in the production of this most important product, but they did not manage to establish it right away. The acute shortage of 76-mm armor-piercing shells was aggravated by the enormous difficulties in delivering them to the front due to the general breakdown

of transport at the beginning of the war. For all these reasons, until August 1941, T-34 and KV tanks often had to fire at enemy tanks with old shells with rod shrapnel, the fuse of which was set to "strike". At a distance of 300 m, such shells were able to penetrate armor up to 35 mm thick and were suitable for fighting light German tanks. Czech Pz.38 (t) with reinforced armor and German medium tanks, they could only successfully hit the side. ***History of Red Army tanks***

After the revolution, the design and production technology of tanks in the Soviet country had to be developed practically from scratch. In tsarist Russia they were absent. Projects of varying degrees of feasibility that appeared there from time to time, as well as two prototypes of the Porokhovshchikov and Lebedenko tanks made in metal, which showed their complete non-viability, cannot be considered the foundation of tank building. The situation was aggravated by the devastation in the country and the decline of its industry as a result of the long years of the First World War, the Revolution and the Civil War. Particularly heavy were the losses of qualified personnel - primarily engineers and technicians. Under these conditions, the only real way to create a new, advanced and extremely complex industry was to copy foreign designs. It

should be noted that the model of the French FT-17 light tank from Renault, which was very successful for that time, was chosen as the prototype of the first Soviet combat vehicles. This tank has become

the ancestor of the classical layout, which still prevails in our time: in front is the control compartment, behind it is the fighting compartment, where the main armament for the first time in the history of tanks was placed in a rotating turret, and behind it is the power one. Simplicity in production and low cost of construction allowed the French to produce 3177 machines of this model during the last year of the war. Thus, even only French-made FT-17s became the most massive in the First World War, and yet they were built in the USA and in Italy.

During the Civil War in the spring of 1919, two serviceable FT 17s were captured from the Whites by the Red Army of the 2nd Ukrainian Soviet Army in the battle near Odessa. One of them was sent to Moscow as a gift to Lenin. On May 1 of the same year, he participated in a festive parade on Red Square. The Council of People's Commissars of the RSFSR decided to organize the production of tanks according to his model at the Krasnoye Sormovo plant in Nizhny Novgorod. The task was not as simple as it seemed at first glance. Some components of the tank were lost during its transportation to the plant by rail, and among them such an important one as the gearbox. It took almost two years of work and colossal efforts from both Nizhny Novgorod and allied contractors who supplied armor and engines to make 15 tanks. At the same time, only 12 of them had enough weapons. They cost a huge amount of over 93 million rubles, and the expected order for the next 15 cars did not follow. The contrast between the capabilities of the French and Soviet industries of those years is more than eloquent. These tanks did not have time to get into the Civil War, and they had a peaceful fate. In 1922, 5 of them were sent to the starving Volga region to plow the fields instead of tractors. In the spring of 1930, they were removed from service and sent to a warehouse.

On June 2, 1926, the first tank building program was adopted in the USSR, designed for 3 years. As part of this program, the first Soviet serial tank MS-1 was developed. The letters MC in its name were an abbreviation of the words "small accompaniments". They reflected the main purpose of this tank - to accompany the infantry in battle. In appearance, the tank resembled the "Russian Renault", but was slightly smaller and lighter. Armor and armament were similar, but

in terms of maximum speed and power reserve, the MS-1 was almost twice as superior to its predecessor.

The tank was adopted by the Red Army on July 6, 1927 and was in production until 1932. During this time, 959 MS-1s were manufactured, mainly at the Bolshevik plant in Leningrad. These tanks had a chance to fight: in November 1929, nine of them took an active part in the battles with the Chinese during the conflict on the CER. In 1934–1937, 160 MS-1s, which had completely exhausted their engine resources, were transferred to fortified areas due to the lack of spare parts. Chassis, engines and transmissions of these tanks were scrapped, and the hulls with turrets were used in the construction of stationary fortifications. At the same time, they were rearmed with coaxial machine guns or 45-mm cannons. In 1938, the same sad fate befell all 700 surviving MS-1 tanks. Only about 70 of them, which still retained the ability to move, became part of the tank companies of the garrisons of fortified areas for use as mobile firing points. Their 37mm guns were replaced with 45mm ones. This was done both to increase their firepower and to unify their ammunition with the caliber of guns common in the Red Army of that time.

In 1928, a large-scale implementation of plans for the industrialization of the USSR began. First of all, heavy industry enterprises were built during the first five-year plan. With their entry into service, it became possible to begin the mass production of combat vehicles, and here the question of the correct choice of types and models of tanks necessary for arming the army arose with particular urgency.

The Soviet leadership approached this issue with all seriousness. At the meeting of the Revolutionary Military Council of the USSR on July 17-18, 1929, they adopted the "System of tank-tractor armored weapons of the Red Army." It was decided to build the following types of tanks: wheeled-tracked tankettes, small tanks (these included the then existing MS-1), medium and heavy tanks. It only remained to develop tank designs that meet the requirements of the "System ..." and are suitable for production at the plants that already existed then and the newly built plants.

But it wasn't easy at all. First of all, the lack of special knowledge and the lack of sufficient practical experience in tank building among Soviet engineers and designers of that time interfered. And the competent specialists themselves were sorely lacking, so the projects and prototypes of military vehicles that appeared then suffered from excessive complexity and overweight, were low-tech, unreliable and too expensive. Such tanks were simply beyond the reach of the country. Therefore, it is understandable why, in order to accelerate the development of our own tank building, a well-founded decision was made to turn to the best foreign experience. Life proved the correctness of this path, because of the 78 models of tanks and tankettes developed in the USSR in 1931-1939, not one was put into service. The service in the Red Army at that

time consisted of tanks with foreign roots. Soviet tank builders acquired their own confident handwriting only towards the end of the Great Patriotic War.

Just at the time of the adoption of the "System ...", a close acquaintance of domestic specialists with the then latest German technology took place in the aforementioned secret Soviet-German tank school "Kama". The study of ten prototypes of German tanks and the experience of their operation at the training ground undoubtedly brought great benefits to Soviet tank building. Their best features have been duly noted, valued and borrowed. So, in the design of future Soviet tanks, a twin installation of a cannon and a machine gun began to be used, and welding began to be used in the production technology of towers and hulls. The first Soviet tank optical sights and radio stations were also developed on the basis of their German prototypes.

On December 5, 1929, the Politburo of the Central Committee of the All-Union Communist Party of Bolsheviks adopted a resolution "On the implementation of the tank building program." In particular, it proposed:

"To send abroad an authoritative commission from representatives of the Supreme Council of National Economy and the People's Commissariat for Military Affairs and assign the task of: a) selection and purchase of types and models of tanks, b) finding out the possibilities of obtaining technical assistance and designers.

In pursuance of this decree, on December 30, 1929, a commission was sent on a foreign business trip under the leadership of the head of the Department of Motorization and Mechanization of the Red Army, I. A. Khalepsky. The commission was authorized to purchase samples of all tanks included in the approved "System of tank-tractor-auto-armored weapons of the Red Army". At first, she visited Germany, Czechoslovakia and France, but there were no samples of tanks suitable for the Red Army, only tractors were purchased in Germany and France. At that time, Great Britain, the birthplace of the first tanks, was considered the most advanced tank-building country in the world, and the well-known company Vickers was the leading British company in the development and production of armored vehicles. Khalepsky's commission went there. Business negotiations were quite successful, we managed to order almost everything planned. Everything except a heavy tank, which the British refused to sell. This did not happen at all at the whim of the Vickers company,

which was then going through hard times. After the end of the First World War, the British government stopped ordering hundreds and thousands of military equipment from her. In the 1920s, it was only about prototypes or, at best, about dozens of tanks sold to the British army. In order to maintain tank production, the company made considerable efforts to develop the export of its products. But her hands were tied by a government that only allowed the sale of the most advanced tanks to trusted British allies. The rest could only buy combat vehicles, inferior to the tanks that were or planned to enter service with the British army.

Therefore, the heavy tank "Independent" was not allowed to be sold in the USSR. But 20 small and cheap Vickers-Carden-Lloyd wedges The British sold the Mark VI willingly. On their basis, the USSR developed its own tankette T-27, which was put into service on February 13, 1931. Its main difference from the English prototype was a new motor based on the GAZ-AA automobile engine and a transmission from the same truck. By a fortunate coincidence, both Soviet and original British engines and transmissions had the same origin from the American company Ford.

This circumstance, of course, facilitated the replacement. In order not to spoil the finished good design, the military considered it possible to abandon the wheel-caterpillar drive provided by the "System ..." The serial production of the T-27 went from 1931 to 1934 at the Bolshevik Leningrad plant, at the Moscow plant No. 37 and the Gorky Automobile Plant. In total, 3295 of these were built during this time.

tankettes.

In the small or light tank category, 15 Vickers Mark E, or "6-ton" vehicles were purchased. This tank was developed by the company exclusively for export, so they tried to make it as versatile and cheap as possible in order to please the maximum number of potential buyers. The tank was a success, it turned out to be compact, mobile, well protected, quite adequately armed for its time and deservedly became a great commercial success for the Vickers. But the most successful fate fell to him in the USSR. At the very first show to

representatives of the high army command in the Moscow region on January 8, 1931, the tank made an indelible impression on all those present with its maneuverability and maneuverability. Already on February 13, he was officially adopted by the Red Army under the symbol T-26. Its mass production began in Leningrad at the Bolshevik plant in 1931 and continued until 1940. During this time, the tank has changed a lot. Initially, it was a typical double-turreted "trenches cleaner" armed only with

machine guns. Then, in the right turret, the machine gun was replaced with a 37 mm cannon. And since 1933, in place of two small towers, one large one, equipped with a 45-mm gun, appeared. This replacement was not difficult, because Vickers offered this type of armament from the very beginning, and the hull design was prepared for it in advance. In 1938, the tank's turret was made conical to increase durability.

As a result of numerous modifications, the combat weight of the latest releases of the T-26 increased by 70% compared to its prototype and exceeded 10 tons. In just 10 years, 11218 T-26 tanks of twenty-three serial models were produced at the Bolshevik plant. The main ones were 1626 double-turreted tanks, of which about 450 had a 37-mm cannon in the right turret, 4102 were single-turret, of which 471 had an additional anti-aircraft machine gun on the turret, 3958

radio, 55 remote-controlled, 65 bridge layers, 1220 flamethrower and chemical. With such "circulations" on the eve of the Great Patriotic War, the T-26 became the most massive tank in the world. During the winter war with Finland, 80 T-26s were shielded with additional armor plates 20 to 40 mm thick. The security of these tanks has increased significantly, but the weight of the vehicles has reached 12 tons. The tanks turned out to be clearly overloaded, and their driving performance deteriorated sharply.

As prototypes for the future medium Soviet tank, 15 Vickers Mark II, or "12-ton" medium tanks, were purchased. But it so happened that after the signing of the contract, members of the commission noticed an unusual three-tower tank at the British training ground. It was one of three prototypes of the Vickers Mark III medium tank built by that time - or, as it was also called, "16-ton". This machine was perhaps the most advanced tank of its time. "Vickers" Mark II was much inferior to him - that's why, in fact, he was sold to the USSR. But the British army, in addition to prototypes, ordered only 3 more of these tanks, built in 1933-1934. The main drawback of the Vickers Mark III was the high price, which

decided its fate, although modern British tank experts consider this tank the pinnacle of British tank building at that time. Further, in pursuit of cheapness, it began a long decline until the very appearance of the Centurion in 1945. The members of the Khalepsky commission then, of course, could not know all this, but

at first glance they felt a promising design, and their intuition did not let them down. In the same 1930, Khalepsky's deputy on the commission, engineer S. A. Ginzburg, went to England on a second business trip and, by hook or by crook, collected information about this secret tank. The British flatly refused to discuss its sale and offered instead to design something similar according to Soviet requirements. But the price of their offer turned out to be unacceptable, and it was decided to develop their own tank using the information received in England. Although the task was not easy, it was successfully solved by the specialists of the Tanko Tractor Design

Bureau of the All-Union Gunnery, specially created in Leningrad on January 28, 1931.

arsenal association under the leadership of the same Ginzburg. They borrowed the general layout and some design solutions from the 16-ton, the lower suspension from the German Grosstraktor tank from the Krupp company, and the side clutches from the American Christie tank. Already on May 29,

1932, the tank, named T-28, made its first run through the yard of the Bolshevik plant. After thorough improvements based on the results of testing the first prototype at the end of September 1932, it was decided to organize mass production of the T-28 at the Leningrad Krasny Putilovets plant, which later became known as the Leningrad Kirov Plant (LKZ). For the construction of such complex tanks as the T-28, this enterprise, which already had vast experience in the manufacture of various complex equipment, received additional technological equipment and was strengthened by qualified personnel. We also established production cooperation with other factories. LKZ did not let us down: from 1933 to 1940, 503 tanks were handed over to military acceptance. The real test of the T-28 took place in the Soviet-Finnish war from November 30,

1939 to March 13, 1940. There, the 20th heavy tank brigade named after Kirov, equipped mainly with these vehicles, operated in the main direction. On December 19, her tanks broke through the famous Mannerheim Line to the full depth, but, not supported by the infantry, were forced to retreat to their original positions. In total, 172 T-28s took part in the battles with the Finns, and 482 went out of action for various reasons, including non-combat ones. This happened up to 5 times! Only 22 T-28s were irretrievably lost: 20 of them burned down, and 2 fell into the hands of the Finns. According to the experience of the war, the T-28 began to be shielded with additional armor, bringing the thickness of the forehead to 50–80 mm. At the same time, its weight increased by 4 tons and reached 32 tons. 126 tanks managed to undergo such modernization before the war. Its armament was also reinforced by installing a 76-mm L-10 gun with a barrel length of 26 calibers, instead of 16.5 calibers for the previous KT-28. By the beginning of the war, more than 300 T-28s had received the new gun. This tank was easy to

control, convenience for the crew and high real operational speed. It also had great potential for further modernization - but, unfortunately, it was never

used completely.

As mentioned above, the prototype for a heavy tank, provided for by the "System of tank-tractor-auto-armored weapons of the Red Army", could not be purchased. This tank was designed for high-quality reinforcement of rifle and tank formations when breaking through especially powerful and fortified enemy defense lines in advance. At that time, it was considered necessary for such a machine to be able to develop strong fire simultaneously in all directions, so the layout of the weapons was decided to be modeled after the same English heavy five-turreted Independent tank, which they had previously unsuccessfully tried to buy. By the way, the "Independent" itself never left the prototype stage, but in the USSR they did not know this at that time and considered it a serial tank, which was in service with the British army. The development of the Soviet heavy tank in August 1931 was entrusted to the AVO-5 design bureau at the Bolshevik plant in Leningrad. The work did not start in a vacuum. It was based on the project of the

TG medium tank, made by the German engineer Edward Grote, who from March 1930 to August 1931 worked under a contract in the USSR with a whole group of designers from Germany and headed the AVO-5 design bureau. After his departure, the bureau was headed by N. V. Barykov, who had previously worked there as Grote's deputy. The TG tank was built, but it turned out to be too complicated to manufacture and expensive, so it did not go into series. However, its chassis, engine and transmission were used in the new project.

The assembly of the first model of the tank, which received the T-35 index, was completed on August 20, 1932. After testing in the fall of that year, many changes had to be made to its design. Instead of the M-6 engine, they installed the M-17 engine, also of aviation origin. Easy to operate, but difficult to manufacture and unreliable in operation, the pneumatically controlled transmission was replaced with a more traditional mechanical one. Carts of track rollers were modified according to the type of the German tank "Grosstraktor" of the company

"Krupp". The main and small machine gun turrets were unified with the T-28 turrets, and the medium gun turrets with the BT-5 turrets.

In the meantime, in 1932, tank production at the Bolshevik plant was reorganized into an independent plant No. 174. But it was loaded to the limit with the release of the T-26, so it was decided to transfer the construction of the T-35 to the Kharkov Locomotive Plant (KhPZ) from the second half of 1933 of the year. The qualifications of the Kharkovites and the technical level of their plant were much lower than those of the Leningraders, the construction of huge and complex T-35s was difficult, plans were constantly frustrated. Almost all tanks were assembled individually, constantly making changes to them, so that most of them differed from each other. In total, from 1933 to 1939, only 61 copies of the T-35 were produced. The last of them weighed 55 tons. The heavy weight of the tank created many problems. According to the reports of the commanders at the beginning of its operation in the army, "the tank overcame the rise of only 17 degrees, could not get out of a large puddle." It got to the point that in 1935 the T-35 was banned from moving over fallen tree trunks, because the tracks broke. The reliability, mobility and maneuverability of these tanks left much to be desired, but at the parades, the five-turreted armored giants, bristling in all directions with the barrels of guns and machine guns, looked very, very impressive. Another very important

acquisition was made by the Khalepsky commission in the USA, where the talented designer John Walter Christie lived and worked. He was a prominent representative of a dying breed of nuggets-inventors, did not have a completed higher education and did not like to follow other people's instructions on what and how to design. As a result, none of his combat vehicles was adopted by the American army. But Christie still managed to leave a noticeable mark in the history of world tank building. For the first time, he loudly declared himself by demonstrating the ultra-fast M-1928 tank in 1928. This machine developed an unheard-of speed for those times: 68 km/h on tracks and 113 km/h on wheels!

Christie put into his tank the possibility of switching from caterpillar to wheeled propulsion by no means to set a speed record. At that time, tank builders around the world were trying to solve the very difficult problem of increasing the durability of caterpillars. Their resource

measured in hundreds or even tens of kilometers. This was completely insufficient, because the tank needs not only to fight, but first of all it needs to get to the battlefield, which often has to be done on its own. The British were

the first to find a radical solution. Back in 1882, Robert Gatfield obtained a steel with a high manganese content, which, after appropriate heat treatment, acquired outstanding wear and impact resistance. From such steel, named after its inventor, in the late 20s in the UK they began to cast tracks for tank tracks. This measure, along with surface hardening of the connecting fingers, made it possible to bring the caterpillar resource to several thousand kilometers. But in the USSR they learned how to produce high-quality tracked tracks and fingers much later, only in the second half of the 30s. For this, it was necessary to send Soviet foundry specialists to study in England. Khalepsky faced a difficult dilemma in America. On the one hand,

he had the opportunity to acquire the fastest tank in the world, in which many interesting engineering solutions were used. In addition, his Liberty engine was then mass-produced in the USSR under the M-5 brand. On the other hand, this tank had no place in the approved "System of tank-tractor-auto-armored weapons of the Red Army". But all doubts were cast aside after information appeared that the Poles were going to buy the M-1928. At that time, Poland was considered one of the most likely opponents of the USSR in a future war. The Soviet leadership did not

want to give up the advantage in wheeled-tracked tanks, especially given their ability to cover long distances, which is very important for the Soviet Union with its vast expanses and sparse road network. Christie also really wanted to sell his tank to the USSR. He led its development for 5 years, spent a lot of his own money on it and was in desperate need of money. Business with the Russians promised him great prospects for the future. In order to quickly fulfill the Soviet order, he even disrupted the delivery of his tank to the American army for 4.5 months, which purchased it for review and testing. However, he also shipped an order to the USSR

only in December 1930, with a delay of 3 months. Christie sold to the Soviet representatives 2 improved chassis of his tank without turrets and weapons, their drawings and the rights to manufacture them. It is curious that the United States at that time did not yet recognize the Soviet Union, but the deal was made quite officially.

The new tank was assigned a non-standard designation - BT, an abbreviation of the words "fast tank". In May 1931, the Defense Committee under the Council of People's Commissars of the USSR decided to organize their production at KhPZ. On the one hand, the construction of these machines was simple, because Christie's plant in New Jersey, where they were built, was, in essence, small workshops. But on the other hand, they were still raw experimental models, far from being brought to the level of mass production. They needed serious revision, for which a special design bureau was organized. At first, it was headed by H. M. Toskin, temporarily sent from Moscow, because there was an acute shortage of qualified tank builders in provincial Kharkov. After Toskin returned to Moscow, on December 6, 1931, an experienced engineer with pre-revolutionary experience, A. O. Firsov, was appointed head of the bureau. On the way of the new tank, unexpected obstacles constantly arose. The M-5 engine was discontinued in the aircraft industry as obsolete, so for BT it was necessary to purchase Liberty engines in the USA, a large number of which were manufactured during the First World War. There were not enough weapons for him either, which is why only 180 tanks received a 37-mm cannon, and coaxial machine guns were installed on the rest. In total, 620 tanks were built in 1932-1933, which were renamed BT-2 after the development of a new tank model, the BT-5, began.

Serial production of the BT-5 at KhPZ began in March 1933 and continued until the end of 1934. During this time, 1884 of these tanks were produced, of which 263 were command tanks and were equipped with radio stations. The main difference between the BT-5 and the previous model was a new turret, unified with the turret of the T-26 tank and armed with a 45-mm cannon. All imported Liberty engines were already installed on the BT-2 tanks, so it was necessary to equip the BT-5

to organize a major overhaul of M-5 aircraft engines that have exhausted their flight life.

Such a solution to the problem with the engine could only be a temporary measure, because the number of M-5 engines that were discontinued was steadily decreasing. Therefore, in May 1934, a new tank model appeared - the BT-7 with the M-17T engine, which was a variant of the aircraft engine produced in the USSR in the 30s under license from the German company BMW. In addition to the engine, this tank differed from the previous model with a new welded hull instead of the previous riveted one and a new caterpillar with smaller links. In 1937, the tank received a welded conical turret. Until the end of 1939, 2596 linear BT-7s and 2017 commanders were produced, with a radio station installed on them. In addition to them, in 1937, 133 BT-7A artillery tanks equipped with a 76-mm gun were manufactured, 11 of them with radio stations. From December 1939 to

September 1940, 788 BT-7M tanks were built - the last production vehicles from this large family. Their main feature was the installation of a new V-2 diesel engine. The weight of the tank increased to 14.65 tons, and the overloaded rubber tires of the road wheels, when driving on wheels in top gear, began to fail after only 50-100 kilometers. Therefore, the BT-7M was recommended to be used only on tracks, and the section on driving on wheels was removed from its instruction manual.

Orders for tanks from the British company Vickers continued after 1930. On February 5, 1932, 8 amphibious tanks were bought from her. Attempts to copy these tanks were made even earlier, as soon as information about them appeared in the open press. Using the experience of these works and samples received from England, the T-37A amphibious tank was developed at the Moscow plant No. 37 under the leadership of I. I. Kozyrev. The buoyancy of the tank was provided by two floats mounted on the side. It was put into service on August 11, 1932, even before the completion of the prototype. Its production began in 1933, and over the course of 4 years, Plant No. 37 produced 1909 linear tanks and 643 radium tanks.

Thus, work on the introduction of the first "System of tank-tractor-auto-armored weapons of the Red Army" was successfully carried out. IN

Decree of the Council of Labor and Defense on the system of tank weapons of the Red Army No. 71 dated August 13, 1933, in particular, said: " To approve ...

for the first half of the five-year plan, the preservation of production of the following types of combat vehicles:

a) T-37 - as a reconnaissance tank; b) T-26 - as a combined arms tank; c) B-T - as an operational tank; d) T-28 - as a tank of high-quality reinforcement of the TRGC; e) T-35 - as a powerful special purpose tank. But it was impossible to stop there, especially

since all the tanks listed in the decree needed to be improved. The T-37A, for example, was originally planned for long-distance transportation in the back of heavy trucks, but these trucks were not yet available in the USSR at that time. Long marches on their own, for which these vehicles were not designed, led to massive breakdowns of the undercarriage of the tanks and overheating of their engines. Therefore, at the end of 1933, the development of a new amphibious tank began. The initial intention to make it wheeled and tracked turned out to be unrealistic, and

on February 29, 1936, the purely tracked amphibious tank T-38, designed in the Design Bureau of Plant No. 37, which was led by N.A. Astrov, was adopted by the Red Army. From 1936 to 1938, 1382 of these tanks were built, of which 165 were equipped with radio stations. They decided to abandon the floats, and the buoyancy of the T-38 was provided only by the increased displacement. But its stock turned out to be too small, only 5-10%, so the tank sank even with a slight overload. He sank even without overload, when trying to make maneuvers on the water, with a sharp change in swimming speed, when entering the water from a steep bank or when leaving the water, etc., etc. The reliability of the tank also left much to be desired . But then events took place that convincingly showed that the system of tank weapons of the Red Army urgently needs not a gradual evolution, but a radical update. These events

became the Spanish Civil War. It was attended by Soviet tanks T-26 and BT-5, and Soviet tankers, among whom was the commander of the international tank brigade D. G. Pavlov,

deserving the title of Hero of the Soviet Union there. In June 1937, immediately after returning from Spain, he was appointed deputy head of the Armored Directorate (ABTU) of the Red Army, and just six months later he became his head. Pavlov, from his fresh practical combat experience, was well aware of the shortcomings of Soviet tanks that emerged during the war in Spain.

Their bulletproof armor no longer met the requirements of the time, when the defense was densely saturated with small-caliber rapid-fire anti-tank guns. The 45-mm cannon as the main armament also proved to be insufficiently effective, primarily from the point of view of the weak fragmentation and high-explosive action of its shells. To disable an enemy gun or machine gun, a direct hit from her projectile was required, and this was not at all easy to achieve. Heavier and more powerful shells were also required for a successful fight against field fortifications. Added fuel to the fire received information about new types of tanks that appeared in France with anti-ballistic armor, reliably protecting them from small-caliber anti-tank artillery. The French achieved this not only due to the thickness of the armor, but also due to the rational angles of its inclination. It became clear that the numerous fleet of Soviet tanks, built by that time at the cost of

the enormous efforts of the whole country, was rapidly becoming morally obsolete. Under these conditions, Pavlov acted quickly and decisively. In his letter dated December 23, 1937, he set new increased requirements for the armor of future Soviet tanks: *"The armor protection of the new tanks of the Red Army should provide: - for amphibious tanks -*

protect from fire with an armor-piercing rifle bullet and a bullet of a light anti-tank rifle at all distances, or not less than 12 15 mm thick;

- for light tanks - to protect against heavy machine gun fire and small and medium caliber rifles at all distances, or from shelling with a 37 mm anti-tank gun at a distance of 600 m, or at least 20-25 mm thick.

- for medium tanks - to protect from fire 37-mm guns at all firing distances and from fire 4 7-mm guns at a distance of 800 m, or at least 40-42 mm thick.

- for heavy tanks - to protect against fire 47-mm guns at all ranges, or from fire 76-mm guns at a distance of 800-1000 m, or at least 60 mm thick ...

When designing new tanks, it is necessary to provide for the possibility of increasing the level of armor protection during modernization by at least one step ... " the

The last requirement is convincing. demonstrates the foresight of Pavlov, who already then foresaw that the competition between armor and projectile for military vehicles was just beginning, and wanted the new Soviet tanks to be ready for it in advance. The fulfillment of this requirement in the design of the famous "thirty-four" provided her with an enviable longevity.

Pavlov did not forget about strengthening the armament of promising tanks. In January 1938, he wrote to G. I. Kulik, Deputy Commissar of Defense for Armaments:

"... in order to break through modern fortified defense lines, part of medium and heavy tanks must be equipped with a tank gun of at least 76 mm to 107 mm caliber; or howitzer, caliber 122-152 mm. It was at the time when D. G.

Pavlov was at the helm of Soviet tank building that new types of tanks were developed and adopted by the Red Army, which, together with their closest descendants, had to bear the brunt of the Great Patriotic War.

New pre-war Soviet tanks

Half-measures to modernize the T-38 did not allow to radically solve all its problems, therefore, on December 19, 1939, a completely new light tank, the T-40, developed under the leadership of N.A. Astrov, was adopted by the Red Army at the end of 1938. This tank was floating not only in name. It had a solid displacement reserve - about 30% - and a wave-reflecting shield in the bow, which significantly increased its seaworthiness. The suspension of the tank was the most advanced for that time - an individual torsion bar, it made it possible to significantly improve mobility

vehicles on rough terrain. The power plant was assembled from cheap and affordable automotive units, which greatly simplified the manufacture of the tank, reduced its price and improved reliability. Before the start of World War II, Plant No. 37 managed to produce 222 of these tanks. It is very important that the successful T-40 chassis had a solid margin of safety, which later made it possible to build much heavier vehicles on its basis, such as T-60, T-70, T-80 tanks and SU-76 self-propelled guns. Of course, they lost their former ability to swim, but it was of much less practical importance than the firepower and armor protection that had increased much due to it. In August

1937, the KhPZ Design Bureau received a government order to develop a new tank model. At that time for this bureau such a task was unbearable. It was a relatively small design organization that worked in the outback, far from the leading centers of Soviet tank building. The main task of the bureau was the design support for the production of tanks of the BT series. The Kharkiv residents managed to gradually improve Christie's original model, but things were much worse with independent creativity. Most of the projects they completed could not be brought to mass production, because the KhPZ was in dire need of qualified specialists. The organizer and first head of the plant's tank-building design group, I. N. Alekseenko, went to work in Leningrad in 1930, where the best cadres of Soviet tank developers were then concentrated, but he did not gain much fame there - but he was the best in Kharkov. The constant problem of a shortage of competent and experienced engineering personnel throughout the entire

period of the bureau's work was exacerbated by the activities of the "authorities". Its workers were repressed from time to time, accusing them of miscalculations and omissions of sabotage, while the cause of the errors was mainly a banal lack of knowledge and practical experience. The infamous campaign against the "enemies of the people" in 1937 did not bypass the KhPZ either. The director of the plant, IP Bondarenko, who was shot, was included in the lists of the repressed. Head of KB A.

O. Firsov was imprisoned, but he was the most experienced, educated and knowledgeable engineer there. ABTU had no particular illusions

about the real capabilities of the bureau of the Kharkov plant and therefore took practical measures to strengthen it. A large group of graduates of the Military Academy of Mechanization and Motorization (VAMM) was sent there, headed by its adjunct military engineer of the 3rd rank A. Ya. Dik. From this group and the best designers of the plant allocated to him, Dick formed a separate design bureau - OKB - and led the development of a technical design for a new tank, which received the designation BT-20. The work was completed by mid-March 1938 with a delay of one and a half months. According to an anonymous denunciation, Dick was arrested, accused of failing to meet the deadlines for a government assignment, not fulfilling its points, etc., and sentenced to 20 years in camps, and his bureau was disbanded. But no one canceled the government assignment, and further work on it was entrusted to M.I. Koshkin, who organized a new special design bureau for this, which received the designation KB-24. Koshkin himself was engaged in party work for most of his life. Even in Leningrad, in the design bureau of the plant. S.

M. Kirov, he was the secretary of the party bureau and replaced its leader Ginzburg only for a short time, when he was removed from office. He did not have a single successful independent project behind him. Koshkin was initially transferred to Kharkov to replace the arrested secretary of the party committee of the local design bureau. But by the time he arrived, the head of the design bureau, Firsov, had also been arrested, and Koshkin was appointed to his place.

Becoming responsible behind performance the most important government assignment, Koshkin found himself in an unenviable situation: along with the wheeled-tracked BT-20, which was renamed the A-20, he was instructed to quickly develop its purely tracked version of the A-20G. The main merit of Koshkin was that he successfully defended his people from unreasonable repressions. He even managed to secure the release of some of those arrested. This helped the cause a lot, because no one gave him new specialists. Koshkin turned out to be a good organizer and managed to organize the shock work of his bureau, using all methods - both a stick and a carrot. And work

went. Along the way, the name A-20G changed to A-32, and then it turned into T-32. The caterpillar version of the tank, unlike the wheeled caterpillar one, had large reserves for increasing the weight, which made it possible to fulfill the requirements of the military and bring the thickness of its armor to 30 mm, arming the vehicle with a long-barreled 76 mm cannon. At the same time, the opportunities for further growth were far from being exhausted. The armor thickness of the wheeled-tracked A-20 was only 25 mm, and it was armed with a 45 mm cannon. At the same time, the limited bearing capacity of its undercarriage no longer allowed to increase its armor and weapons. It is clear why on December 19, 1939, the tracked T-32 with armor reinforced to 45 mm was adopted by the Red Army. He was given a name that later became legendary - T-34.

The lead engineer for the development of projects for the A-20 and A-32 tanks was A. A. Morozov, a man of extraordinary talent and great capacity for work. But then he lacked theoretical knowledge and practical experience. He was self-taught and received his higher education only in the 1950s. The tragic fate of Dick clearly demonstrated to the team of KB-24 the sad consequences of failing to meet the deadlines for the government assignment. In this difficult situation, they had no other choice but to make the most of the technical solutions laid down and tested in the BT series tanks. They simply did not have enough time to search and develop fundamentally new designs. In addition, the lack of knowledge and experience of Kharkiv residents made this activity too risky.

Not surprisingly, the main differences between the T-34 and the BT-7M were the new shape of the hull and turret, the thickness of the armor, armament, and a purely tracked propulsion system. The advanced form of the T-34 hull was also not invented by its creators. It was borrowed from a prototype of the BT-IS tank, built in 1937 under the guidance of the self-taught inventor N. F. Tsyganov. And he, in turn, according to the assignment issued to him, used as a prototype the hull of the French light tank FCM36, which was welded from sheets up to 40 mm thick, located at large angles tilt.

Most of the main components and assemblies of the "thirty-four" were reinforced components and assemblies of its predecessor

BT-7M. The engine was the same V-2 diesel, the suspension was also preserved, only one more track roller was added on each side. The old transmission scheme has not changed either: in the gearbox, their switching was still carried out by the archaic method of moving the gears, the final drives were still single-stage with a large gear ratio, and the engagement of the drive wheel with the caterpillar remained ridge. The T-34 caterpillar of the first releases, modeled on the BT, was coarse-grained, without developed lugs, which adversely affected its patency.

The ancestor of the BT series, the Christie tank, was created back in the 20s and weighed almost one and a half times less than the BT-7M. Each technical solution has its own limits of application, and these limits have already been approached closely on the latest "bateshes". The T-34 was twice as heavy, so it is not surprising that the reliability of its transmission left much to be desired. This was aggravated by the flaws of the B-2 engine, which was not completed at that time. Another major drawback of the tank was the unacceptable tightness of its turret, because it was originally designed for a 45-mm gun, and the breech of the 76-mm gun installed in its place took up much more space. Due to the lack of space and the lack of high-quality surveillance devices, the T-34 had very poor visibility, making it almost "blind".

During the tests, another serious flaw of the "thirty-four" was revealed - it turned out to be very difficult to manage. Drivers had to apply excessive force to its levers, for example, shifting from second gear to third in its 4-speed box required a force of up to 31 kilograms. This was due to the fact that in order to switch to another gear, it was necessary to move large and heavy gears along the splined shaft in the axial direction, which were not equipped with anything to synchronize the revolutions before engaging them, except for the rounded ends of the teeth. Their speeds were equalized only due to the friction of the ends of the gears among themselves, so they had to be firmly pressed against each other. And the box itself was located at a distance of more than 3 meters from the driver and did not have any devices that facilitate its use. The situation was aggravated by a complex drive of the gearshift mechanism with long rods

and driving rollers, which sagged, stretched out and often jammed. Great efforts were also required to control the main and onboard clutches. Despite the help of radio operators sitting nearby, as a result of such hard work of mechanics, drivers sometimes lost up to 2–3 kilograms after long marches.

weight.

In January 1941, a meeting was held to improve the quality and design of the T-34. Based on its results, a well-founded decision was made not to be limited to numerous improvements, but to create a new combat vehicle. She received the index T-34M or A-43 and, in accordance with the requirements of the military, differed from the T-34 in a 3-seat turret on an extended shoulder strap, the presence of a commander's cupola, a new diesel engine, an 8-speed gearbox, an individual torsion bar suspension, and many other important innovations. From January 1942, the T-34M was supposed to replace the T-34 in production, but these plans were thwarted by the war ... The big drawbacks of the T-34, especially the first releases, were low reliability and low durability. New tanks received a factory warranty for 1000

kilometers, but in reality they were far from this figure. According to statistics, "thirty-fours" during the Great Patriotic War had five times less mileage before overhaul - only 200 kilometers. At the same time, before failure as a result of combat damage in 1942, they managed to go even three times less - only 66.7 kilometers. Thus, most of the tanks died before they had time to break down. The life cycle of a tank at the front line averaged only 1-3 attacks or 4-10 days. The time spent on its transportation by rail and repairs was not included here. Here it should be noted that the importance of the parameters of quality, reliability and durability of tanks has a significant difference for peacetime and wartime. Any machine must have sufficient reliability within its intended service life. In a war, and even as cruel as the Great Patriotic War, as a rule, tanks did not have time to go out even a small resource. Therefore, the decrease in their

quality under these conditions was fully justified, especially since this could

reduce the labor intensity of production and the consumption of scarce materials, and hence increase the production of

tanks. We must not forget that each tank has both advantages and disadvantages. Along with the existing design flaws, the T-34 had the most important advantages: reliable armor protection, excellent weapons for that time, and wide tracks that provided it with low specific pressure, and hence high off-road capability. Equally important, its production utilized state-of-the-art technological advances for the time, such as automatic welding of medium-thick armor plates and casting of turrets.

The lion's share of the labor intensity of the tank of that time fell on the manufacture of its armored hull and turret. The widespread use of welding, stamping and casting made it possible to sharply increase labor productivity and reduce production costs. Thanks to the considerable reserves built into the T-34 chassis, Soviet designers and technologists subsequently managed to significantly improve this tank in almost all key indicators, including firepower, armor protection, mobility, reliability and convenience for the crew, all without slowing down the production rate. The war was ended by completely different "thirty-fours", far superior to those that started it.

An important advantage of the T-34 was their ease of use. This quality made it possible in a short time to train crews for them in sufficient quantities to fully provide them with huge runs of tanks produced by industry. And at the same time, the requirements for the qualifications of these crews just corresponded to the not too high level of training of those human resources that the Red Army then had at its disposal. T-34s were not difficult to repair either, which made it easier to repair

them with improvised means in the field. The simplicity and manufacturability of the "thirty-fours" in production fully met the limited capabilities of the Soviet industry of that era. This made it possible in wartime to successfully organize their serial construction at several factories at once in the most difficult conditions of evacuation, lack of materials, tools,

equipment and qualified personnel and make this tank the most massive combat vehicle of the Second World War. Preparations for such a development of events

began already in advance. In addition to the head plant for the production of T-34 - KhPZ - its construction was entrusted to the Stalingrad Tractor Plant. Together, these two enterprises in 1940 and in the first half of 1941 managed to hand over 1225 T-34 tanks to military acceptance. Now that we have examined the "thirty-four" from different angles, it has become clear that it should not be called the best tank of World War II. However, none of the tanks participating in it can claim this title. And this is natural - after all, each country developed and produced such combat vehicles that were in the largest industry and the requirements of its army. Therefore, the best tanks for the USSR were Soviet-made vehicles, for Germany - German, for the USA - American, etc. Naturally, for a Russian, the best tank is the T-34, for a German - "Panther", and for an American - "Sherman". And each of them is right in its own way, so that endless debates on this topic degrees corresponded to the possibilities have no practical

have no meaning.

The T-35 in no way met the new requirements for armoring heavy tanks. A further increase in the thickness of the armor of this giant brought its weight to a prohibitive value, so in the spring of 1938 KhPZ, where the T-35 was manufactured, was instructed to develop a project for a new heavy tank. But the already mentioned limited capabilities of the Kharkov design bureau and its overload with work on medium tanks forced the designers of the Leningrad plants - Kirov and No. 185 named after S. M. Kirov to be involved in this task. Kharkovites failed to offer anything real, so Leningraders competed only with each other. At first, the requirements of the military provided for three towers, then to keep the weight and dimensions of the tank within reasonable limits, their number was reduced to two. Unexpectedly, a third tank intervened in the competition, a single-turret one. Its draft

design was developed as their diploma work by VAMM graduates, who originally arrived at

Kirov plant for educational purposes. Their plan turned out to be so successful that it won a ticket to life. Based on it, working drawings were developed, and on August 31, 1939, the construction of the first copy of the new tank, named after the then People's Commissar of Defense KV ("Klim Voroshilov"), was completed. The

single-turret layout made it possible to significantly reduce the size and weight of the tank compared to its double-turret competitors, which it also significantly outperformed in armor. The KV was protected on all sides by 75 mm armor, which made it impenetrable to all anti-tank and tank guns of that time. Its suspension was individual torsion bar, which reduced its vulnerability and improved its smoothness.

Even before the end of factory tests, the tank got to

the front. Together with prototypes of the twin-turret heavy tanks SMK ("Sergey Mironovich Kirov") and the T-100, he was sent to be tested by fire during the "Winter War" with Finland. In the first battle on December 18, 1939, the KV received 9 hits from 37-mm armor-piercing shells, which inflicted only superficial damage on it. The most serious of these was a large dent in the barrel of the cannon. The tank not only did not fail, but also managed to pull out the downed T-28 from the battlefield under fire. The next day, this was reported to Moscow, and in the evening of the same day, by a decree of the Defense Committee, the KV was adopted by the Red Army. Its production unfolded at the LKZ instead of the T-28. The haste with the

design and adoption of the KV into service without appropriate testing and refinement led to the fact that the tank had many "childhood diseases". Its engine and transmission, cooling system, air filter and turret rotation mechanism were especially unreliable. To solve all these problems, it was necessary to slow down its release, but no one dared to do this. In conditions of an acute shortage of heavy tanks to equip the new mechanized corps, their poor quality had to be overlooked. In addition, in the early autumn of 1941, it was planned to replace the KV-1 in production with a much more powerful KV-3, so all work to improve it was curtailed a month before the start of the war. In total, 424 KV-1 tanks were produced in the pre-war period, 25 of them

built the Chelyabinsk Tractor Plant, which since the autumn of 1940 began to prepare for the role of understudy

Leningraders. Heavy and bloody battles during numerous fruitless attempts to storm the Mannerheim Line in the winter of 1939-1940 forced the Soviet command to urgently look for new means of breaking through the defense. For the destruction of bunkers, heavy guns that hit them with direct fire were best suited. But it is often very difficult to deliver them to a distance close enough to the bunker, and the gun crews in this case suffer heavy losses from enemy fire. Therefore, a natural solution was to equip the KV tank, which was invulnerable at that time, with a powerful 152-mm gun. It was about such a tank that D. G. Pavlov wrote in the above letter in January 1938. Work on arming the KV

with a 122-mm howitzer began even before the start of the Finnish War, in September 1939, but according to the requirements of the military, it was replaced with a 152-mm howitzer, for which there was a concrete-piercing projectile. Before the end of the war, 4 KV tanks were hastily equipped with such a weapon and immediately sent to the front. However, the Mannerheim line had already been broken by that time, and these tanks had the opportunity to shoot only at the abandoned Finnish pillboxes. They had a chance to fight with the usual field fortifications of the Finns. Tests of tanks began after the end of hostilities. At first they were called "KV with a large turret", and a conventional KV armed with a 76-mm cannon was called "KV with a small turret". In 1941, the first was assigned the index KV-2, and the second - KV-1. The KV-2 had the same drawbacks as its predecessor, but they were exacerbated by its greater weight, so it had poorer cross-country ability and reliability. Before the war, 213 of these tanks were built, all of them on L KZ. As a result of the

titanic efforts of the entire Soviet people in the construction of military vehicles in the prewar years, a huge tank fleet was created in the USSR. In total, for the period up to June 22, 1941, the country's industry delivered over 30 thousand tanks to the Red Army. Even taking into account the fact that some of them were irretrievably lost in armed conflicts, sent to other states, decommissioned due to moral or physical deterioration, accidents, as well as

For other reasons, the Soviet Union still had more tanks than all the rest of the world put together. On June 1, 1941,

23,240 tanks were in service with the Red Army, of which 545 KV, 59 T-35, 969 T-34, 481 T-28, 594 BT-2, 6956 BT-5 and BT-7, 1261 twin-turret T-26, 7631 single-turret T-26, 1137 chemical and flamethrower T-26, 147 T-40, 3460 T-37A and T-38. In addition to them, there were 28 SU-5 self-propelled artillery mounts based on the T-26, 2343 T-27 tankettes and 33 T-27 chemical tankettes. In five western military districts (these include Leningrad, Baltic Special, Western Special, Kiev Special and Odessa) there were 12,898 tanks, of which 510 KV, 51 T-35, 909 T-34, 424 T-28, 396 BT-2, 878 BT-5, 3288 BT-7, 589 twin-turret T-26, 3632 single-turret T-26, 542 chemical and flamethrower T-26, 130 T-40, 1081 T-37A and 468 T-38. To these must be added 17 SU-5 self-propelled artillery mounts based on the T-26, 930 T-27 tankettes and 6 T-27 chemical tankettes. Until June 22, 1941, the western districts managed to receive another 61 T-34s and 12 T-40s. 82.5% of the tanks of the western districts were serviceable and fit for use for their intended purpose, 9.7% of these tanks needed medium repairs, and the remaining 7.8% of the tanks needed major repairs.

Comparative characteristics of Soviet and German tanks

Now that we have dealt with the history of the appearance and development of German and Soviet tanks before the start of World War II, we can begin to compare them. In order to compare tanks with each other in terms of quality, it is necessary first of all to establish their main characteristics that determine their strengths and weaknesses. Let's list them in order of

importance: 1-3. Firepower, armor protection and mobility. 4.

Combat

readiness.

5. Communication. 6.

Review. 7. Convenience for the crew. 8. Range.

9. Visibility.

Analyzing each of the pre-war Soviet and German tanks in terms of all these characteristics would take too much time and space, so we will focus on the latest tanks of that period. Consider them through the prism of the above characteristics.

1-3. The first three characteristics are the most significant, and since they are equivalent, they are placed in one paragraph. It is very important that they are organically combined with each other and are well balanced. Best of all, this balance at the time described here manifested itself in medium tanks. In light tanks, as a rule, mobility prevailed over firepower and armor protection, while in heavy tanks, on the contrary, firepower and armor protection dominated mobility. From the point of

view of the level of development of the first three characteristics and their optimal balance, the thirty-four was the undoubted leader among both Soviet and German cars at that time. In the KV-1 heavy tank, armor protection clearly outweighed both its mobility and firepower. Moreover, since March 1941, the T-34 was armed with a 76.2-mm F-34 cannon with a barrel length of 41.6 calibers. At that time, the L-11 gun of the same caliber was installed on the KV-1, but with a barrel of only 30.5 calibers and with a reduced muzzle velocity as a result. Thus, the T-34 medium tank was then superior to the heavy KV-1 in terms of armament. Only in October 1941, the KV-1 received the ZIS-5 cannon with ballistics similar to those of the F-34 cannon. In the KV-2, firepower was in first place due to an even greater lag in mobility. In essence, he was a heavy self-propelled gun and could not even fire on the move. In German medium tanks, the

firepower at that time left much to be desired. Subsequently, the realities of the war forced the Germans to significantly increase the armament of their tanks and make them more balanced. Their armor protection was relatively reliable only in front, although even there it lacked rational angles of inclination. But the side armor turned out to be too thin and, moreover, weakened by cutouts for evacuation hatches. The mobility of German tanks was not bad only on roads and hard ground.

They were developed for use in the environment of Western and Central Europe and had too high ground pressure for the Eastern Front. This resulted in poor off-road capability, especially on soft ground, swampy terrain, muddy roads or deep snow cover. Light tanks of Czech production, which were in service with the Wehrmacht, had an excellent balance of the first three characteristics, especially the Pz.38(t). However, their weight category did not allow them to achieve a high level of these characteristics, especially in terms of firepower and armor protection. is the most important **Combat readiness** is a characteristic. It is determined primarily by the availability of vehicles capable of

4. where they are needed. ~~The best~~ ^{performing} combat missions on time, tank in the world, which managed to get to the right place at the right time, is immeasurably superior to the best one, which was not there. Combat readiness, of course, is influenced by the previously mentioned mobility and the skill of military leaders - but it is determined primarily by the number of fully combat-ready vehicles at the disposal

of the troops. And this number, in turn, depends on the production manufacturability of tanks and the compliance of the technologies and materials required for their production with the capabilities of the country's industry and available resources. But the production of the maximum possible number of tanks is far from over. They still need to be provided with trained crews, an uninterrupted supply of fuel, lubricants, ammunition and spare parts, timely maintenance of their logistics,

establishing an effective procedure for their evacuation, repair and recovery after breakdowns and combat damage, creating a high-speed transport system for the transfer of military equipment to save it motor resources and time, etc. etc. The amount of work necessary to maintain the combat capability of tanks largely depends on their reliability, durability, suitability for maintenance, maintainability and, of course, on the qualifications and conscientiousness of people working with tanks, and above all their crews. One

in a word, these are not only technical problems, but also organizational ones related to the human factor. In this area, the Wehrmacht at

the beginning of the war had a significant advantage over the Red Army. Of course, by the beginning of the war, the Red Army had a multiple advantage in the number of tanks, but it was leveled by the superiority of the Germans in mobilization, deployment, organization, mobility, controllability, training and combat experience of the invasion army, as well as in its leadership. It is impossible not to mention the effective German supply

system, which made it possible for their mobile troops to strike at previously unprecedented depths and reduced the necessary operational pauses between these strikes. Wehrmacht tanks also demonstrated impressive reliability. So, by the end of October 1941, in the 6th Panzer Division, Pz.II tanks covered an average of 11.5 thousand kilometers, Pz.IV - 11 thousand kilometers, and Czech Pz.35 (t) - 12.5 thousand kilometers and retained after that combat capability. Of course, during this time they were repaired more than once, but in any case, these were outstanding indicators for tanks of that time. It must also be taken into account that the Pz.35 (t), which was long out of production, did not have spare parts, the production of which was also discontinued, so the German repairmen had to dismantle some of these parts for spare parts.

machines.

The design of the T-34 was perfectly adapted to its mass production, but in operation it was far from being so good. Tanks of the first years of production required numerous adjustments and frequent maintenance work on their components and assemblies. So, every hour of engine operation, it was necessary to lubricate the water pump roller by turning the handle of the syringe located far behind the driver, on the engine bulkhead, by 1–2 turns. Every 100 kilometers it was required to manually lubricate the mechanisms in 16 places, every 250-300 kilometers or 10-12 hours of engine operation - in another 6, every 500 kilometers or 25 hours of engine operation - in another 13, and every 1000 kilometers or 50 hours of engine operation - at 38. In summer, it was necessary to flush the air cleaner and change the oil in it at least every 10 hours of engine operation, and in winter - after 20–25.

In real combat conditions, it was practically impossible to regularly perform all these manipulations, especially considering the overwork of the driver due to the heavy control of the tank. As a result, the V-2 engine lacked power and failed early. Its passport resource at that time was 100 engine hours, but it could only work so much at the stand, and the rare B-2 could withstand more than 60–70 engine hours on a tank. Light tanks BT-7M and heavy KVs, which were also equipped with modifications of the V-2 diesel engine, experienced similar problems with the engine.

The shortcomings of the Red Army tank supply and repair system noted above, their insufficient reliability, the unsatisfactory training of tankers at all levels and the inept use of tanks by the Soviet command in the initial period of the war led to the fact that they, as a rule, did not end up at the right time in the right place. And those who nevertheless managed to get there, as a rule, lost their infantry and artillery along the way, which were supposed to accompany them, and without their support they were quickly destroyed by the infantry and artillery of the Germans.

But a significant part of the tanks of the Red Army in the first weeks of the war was not lost in battle. A typical example is the 8th mechanized corps, parts of which during the first 4 days of the war, following conflicting orders of the command, traveled almost 500 kilometers along the roads and lost about 50% of the materiel even before coming into direct contact with the enemy. In the summer of 1941, many Soviet tanks were simply abandoned after breakdowns that could not be fixed due to the lack of repairmen and spare parts, or after running out of fuel that they could not deliver on time, or they got stuck somewhere and never waited for tractors that would they were pulled out. Where exactly did the necessary repair "flyers", tankers, trucks and tractors disappear, were they cut off by German units, bombed by Luftwaffe aircraft, got lost somewhere on the roads due to inability to navigate the terrain, or simply did not exist in nature from the very beginning - now already difficult to install. But there is every reason to assert that the Germans, by their competent actions, used and aggravated the vices of the Soviet tank forces, which were originally incorporated into their organization. More Polish experience

The campaign of 1939 clearly demonstrated how the command of the two tank corps of the Red Army participating in it lost control of its units and failed to organize their supply even in the absence of organized enemy resistance. Since then, the Red Army has not learned how to conduct maneuverable combat operations ... It was necessary to develop this difficult skill at the cost of a lot of blood in a war with a skillful and dangerous enemy who does not forgive other people's

mistakes. 5. **Communication** is the most important and indispensable means for organizing a battle and establishing interaction between its participants. As we have already noted, without exception, all Wehrmacht tanks were equipped with radio communications. The range of standard German tank transmitters was on the move 2–3 kilometers by telephone and 3–4 kilometers by telegraph. These distances were determined by confident signal reception from both sides. The Germans skillfully used communications and fought collectively. As soon as one German tank got into a difficult situation, others immediately came to its aid.

The level of radio coverage of pre-war Soviet tanks was formally quite good, about a third of them were equipped with transceiver radio stations. In the Wehrmacht, we recall that at that time only a large part of the tanks had transmitters - 45%. But the remaining two-thirds of the tanks of the Red Army could rely only on signal flags and rockets for communication. For their use in the tower, a special signaling hatch was provided. Soviet tanks, unlike German tanks, with a few exceptions, did not have receivers. Soviet tank receivers of that time were not much inferior in price to transmitters, were difficult and inconvenient to use and required special user training. There were not enough funds for this, so they were very rarely installed on tanks.

The quality of the transmitters was also poor. T-34 tanks were then equipped with 71-TK-Z radios. She had good passport data: the range reached 18 kilometers when the tank was moving and 25 kilometers while parked with the engine turned off. But in reality, at the maximum range, only one-way reception or operation with a telegraph key was provided. Reliable two-way telephone communication was established on

no more than 4 kilometers away. The radio station itself was difficult to manufacture and operate. It was difficult to tune due to poor selectivity, especially at long range and on the move. The wave, as they say, "floated" and required frequent adjustments. When the correspondent turned on the power amplification unit on his walkie-talkie, when communicating at a distance of less than 2 kilometers, he began to jam the transmitter. A report on comparative tests of Soviet and German tank radio stations in the USSR in the autumn of 1940 concluded with an unequivocal conclusion:

"In all the main characteristics, the radio station of a German tank is superior to that installed on a domestic tank. I consider it expedient to carry out the development of a new type of tank radio based on the existing German samples.

Before the war, three tank radio stations with a full set of design and technological documentation were purchased from the Germans. Work on the design of their Soviet counterpart was started, but they did not manage to finish it before the start of the war. Tankers on radio-equipped tanks often did not have elementary teamwork skills and preferred to act on their own and not ask for help from their comrades, even when it was justified, reducing their chances of success in battle. And what can we say about tanks without communication... Imagine the duties that the T-34 commander, who, we remind you, also served as a gunner, had to perform in battle. He had to simultaneously control the actions of the crew of his tank, monitor the battlefield, identify targets and threats on it in a timely manner, determine the range to them, fire at them from a cannon and a coaxial machine gun, monitor the actions of the tanks of his platoon, especially the tank of the platoon commander, and follow his commands given by signal flags and rockets. It is clear that it was physically impossible for one person to do all this in the heat of battle. As a result, the tanks huddled together instead of attacking in a deployed battle line at appropriate intervals, and were an excellent target for German anti-tankmen. They did not even have the opportunity to warn each other in a timely manner about the perceived danger. Instead of collective action in battle, Soviet tanks were left to their own devices and fought alone.

6. **Visibility** on German tanks was at a high level, primarily due to the presence of a commander's cupola with a circular field of view and the well-known quality of German optical instruments. The commander of a German tank not only had the opportunity to observe the surrounding area due to the fact that he was relieved of all duties except command - he also had excellent equipment for this. German tanks were equipped with telescopic articulated sights, the eyepiece of which remained stationary relative to the gunner when the gun barrel was moved. This made them much more convenient to use. At the same time, Soviet tanks were not only "deaf", but also "blind". This was especially true for the T-34. Initially, it was planned to install an all-round periscope designed by S. Porfiriev in the turret hatch cover of this tank, but in 1939 he was arrested on suspicion of espionage. Instead of its periscope, the T-34 received a new all-round viewing device installed in the large hatch of the tower. But the place for it was chosen even when the tower was being developed for a 45-mm gun. After installing a 76-mm gun with a much larger breech, it became extremely inconvenient to use the device, and in the early spring of 1941 it was removed. The tank commander used a periscope sight for observation in battle, but he had a small field of view and insufficient scanning speed. In addition, the commander had a stationary viewing device with a small view to the left. The remaining members of the T-34 crew had very limited visibility sectors in only one direction: the driver and gunner-radio operator were forward, and the loader was to the right. However, it was difficult for both the commander and the loader to use the onboard viewing devices because of the same gun. In the spring of 1941, a PTK commander's panorama for the loader was installed in the T-34 turret, but the proximity to the recoil parts of the gun made its use in combat unsafe.

A case is widely known when, at the very beginning of the war, a German 37-mm anti-tank gun fired more than 20 shells into the T-34 from a short distance, but still did not penetrate its armor. This fact about the reliability of and about a How armor protection testifies to the "thirty-four", completely unsatisfactory review

from this tank, the crew of which, despite all efforts, still failed to detect and destroy their annoying enemy.

7. Convenience for the crew is necessary to create favorable conditions for him on a campaign and in battle. They enable him to better conserve his strength before going into battle, and therefore to lead him more effectively. The amenities of the tank include, first of all, a fairly spacious fighting compartment and a control compartment equipped with effective ventilation, low effort on the levers, handles and control pedals, compliance with ergonomic rules when designing crew members' workplaces, and a good suspension that prevents the transmission of sharp shocks and shocks from uneven terrain. on the tank hull and quickly damping its vibrations.

The volume of the fighting compartment is largely determined by the size of the turret shoulder strap. On the German tank Pz.III, its diameter was 1520 mm, and on the Pz.IV - 1680 mm. On the T-34 it was 1420 mm, and on the KV-1 and KV-2 it was 1560 mm. Considering that the Pz.III then had only 37-mm or 50-mm guns, the Pz.IV - 75-mm, but with short ammunition, the T-34 and KV-1 - 76-mm, and the KV -2 - 152 mm, it becomes clear why the crew was much more spacious in the German towers than in the Soviet ones. In order to place a heavy and large-sized gun in the KV-2 turret with a clearly insufficient clear size for it, it had to be raised high above the shoulder strap, having built a bulky clumsy turret weighing as much as 12 tons for this tank. For comparison, the KV-1 turret weighed less than 7 tons.

One of the consequences of good living conditions was the high combat rate of fire of Wehrmacht tanks. It was repeatedly determined by specialists from the NIBT at the Kubinka test site. To assess the combat rate of fire of tanks, a special track was built there, along which several races were made by different crews, and their results were then averaged. On tests in 1941-1942, the Pz.III showed a combat rate of 5-9 rounds per minute, T-34 with an unprepared crew - 1-3 rounds per minute, T-34 with a trained crew - 3-5 rounds per minute, KV- 1 - 4-6 shots per minute, KV-2 - 1 shot in 3.5 minutes. Here it is necessary to clarify that the powerful 152-mm KV-2 cannon could not be loaded on the move, this required a complete stop of the tank and bringing the gun to the loading angle. But

it is very significant that the KV-1, with a more spacious fighting compartment than the T-34, surpassed it in rate of fire with similar weapons.

Another factor worsening the combat rate of fire of the "thirty-four" was the placement of the lion's share of its ammunition load on the floor of the fighting compartment. The loader had to bend over each projectile and move it a relatively long distance to the gun breech. At the same time, the bottom of the tank is the safest place in terms of the probability of enemy shells hitting it. This once again illustrates that every technical solution has both positive and negative sides. How much ergonomics affects the combat qualities of tanks shows one

simple example. In 1942, a new ammunition rack was introduced into the T-34, for which the design of the shell boxes was changed. A more rational placement of ammunition and new successful locks to the boxes allowed trained crews to fire up to 6 or more rounds per minute. Thus, with the same volume of the fighting compartment, only the improvement of the ammunition rack made it possible to increase the combat rate of fire of the tank by one and a half times.

The high rate of fire of German tanks was facilitated by the presence of a rotating turret floor, on which the loader stood. Thanks to the polyk, he remained motionless relative to the gun when turning the tower. They were not in Soviet tanks then, and the loader constantly had to be on the alert so as not to be pressed by the breech of the gun when turning the turret or not to be hit by recoil parts after the shot. This did not at all contribute to an increase in the practical rate of fire of the tank. As a result of all tests of

tanks for the rate of fire in Kubinka, the Pz.III invariably won. He, according to Soviet testers, was constantly recognized as the most convenient for the crew. A very successful individual torsion bar suspension of this tank undoubtedly played a big role in this. She provided him with a high smoothness even on rough terrain. The same type of suspension was used on the Soviet T-40 and KV, and the T-34 was equipped with a Christie suspension, which was also individual, but differed by a large diameter of the support and the absence

supporting rollers, as well as the type of elastic elements. Instead of torsional torsion bars, springs were used there.

compression.

But the best conditions for the Pz.III crew were due not only to this. Its turret was installed close to the center of gravity of the tank, so the amplitude of its linear oscillations decreased, and shock absorbers were used in its suspension, which quickly damped these oscillations. In Soviet tanks of that time, there were no shock absorbers, and the turrets were shifted forward. Due to low internal friction in their spring or torsion bar suspension, they swayed for a relatively long time after hitting bumps, and the range of vibrations in the fighting compartment increased due to its distance from the center of gravity of the tank. The question arises why the Pz.III was taken out of production in 1943, and the less convenient and perfect

Pz.IV was produced until the very end of the war? The main reason for this was the larger diameter of the "four" shoulder strap, which made it possible to strengthen its weapons without a noticeable decrease in the amount of habitable space in its fighting compartment.

The ventilation of the fighting compartment is necessary, first of all, for the timely removal of highly toxic powder gases from it, which are formed as a result of firing. In the T-34 of that time, it was completely unsatisfactory for a reason already familiar to us. After equipping the machine with a 76-mm gun (instead of the previous 45-mm gun), the fan installed in the roof of the tower was not above the bolt, but above the gun barrel, where its action was much less effective. The low practical rate of fire of the cannon somewhat weakened the consequences of this defect, but cases of tankmen dying from powder gases did occur. Excessive shifting efforts on the T-34 were exacerbated by another circumstance. There were only 4 gears - obviously not enough for the normal combination of the tank's speed range with the engine speed range. Ideally, after a gear change, the engine speed should decrease to values corresponding to its maximum torque. On the T-34, when shifting gears from second to third and from third to fourth, the engine speed dropped so much that it turned out to be very close to the zone of its unstable operation, where the torque

moment was noticeably lower than the maximum. This led to the fact that most of the time he worked in partial power mode. In the event of even a slight delay when shifting gears or significant road resistance, the tank engine "tipped over" and stalled. Losing a turn in combat is the same as being a stationary target for the enemy, and this was too risky. Therefore, it is not surprising that the T-34s went into battle, as a rule, in second gear and did not fully use their speed qualities. 8.

The power reserve is especially important for increasing the range of independent actions

of tank units. A significant advantage of a diesel engine over a gasoline-powered carburetor is its low specific fuel consumption. Therefore, diesel-equipped tanks usually significantly outperform their gasoline-powered opponents in terms of range. The BT-7M tank, after installing the V-2 engine on it, acquired a record tabular range on the highway - as much as 630 kilometers on tracks or 1250 kilometers on wheels! Although, in fact, no one has ever verified these figures in practice, and could not verify them with all their desire. They are calculated and obtained based on the average fuel consumption per kilometer and the total capacity of the tank's fuel tanks. As mentioned above, the BT-7M was generally not recommended to move on wheels, so it makes no sense to talk about its power reserve on them. The BT-7M was also unable to cover 630 kilometers on tracks at one gas station. The problem was the lack of knowledge and poor workmanship of his V-2 engine. Because of them, its main drawbacks then, in addition to a small resource, were increased fuel consumption, exceeding the norm by 12%, and absolutely unacceptable excessive consumption of oil, which was 3–8 times higher than the existing norms. Therefore, the power reserve of the T-34, on which this diesel engine was also installed, was limited in the fall of 1942 not by fuel, but by oil: according to the Technical Department of the NKTP, fuel on the "thirty-four" was enough for 200-220 kilometers, and oil - only for 145. Therefore, the real power reserves of Soviet and German tanks of that time approximately corresponded to each other.

9. **Significance** is determined by the intensity of the physical fields of the tank, which give out its location to its modern means of detection. At that time, these included its apparent size, color, noise characteristics and weight - after all, the heavier the tank, the greater the distance of its detection by ground shaking as it moves. In this area, the advantage was with the German tanks, mainly due to their significantly lower noise and lighter weight compared to the T-34 and KV. The noise level significantly affects the visibility of tanks, especially in closed areas, at night or in conditions of poor visibility. The T-34 was very noisy. Its powerful 500-horsepower diesel engine was not equipped with a silencer. To the deafening roar of the diesel engine was added the clanging of large-section caterpillars with ridge engagement. Even a heavy KV did not create so much roar, because the tracks in its propulsion unit were used small-link, and their engagement with the drive wheel was lantern. The T-34 moving along the road could be heard almost half a kilometer away, and the German Pz.III - only 150-200 meters away. In addition to the noise, the "thirty-four" unmasked the high columns of dust raised by its exhaust pipes pointing down.

Survival of tanks and tankers

There are 4 basic principles for ensuring tank survival on the battlefield:

1. Don't be

detected. 2. If the tank is still

detected, avoid being hit. 3. If the tank did get hit, prevent

armor penetration. 4. If the armor is still broken, save the crew and tank from

fatal damage. The first two principles relate to the active safety of the tank, and

the last two - to the passive. Let's consider them in order.

1. In order to avoid detection, it is necessary first of all to reduce the visibility of the tank as much as possible, which we have already discussed above. It can be added that the visibility of the tank is reduced

the use of effective camouflage means appropriate to the area and season.

2. You can avoid getting hit by reducing the area of the projection of the tank visible to the enemy and reducing the time during which he sees it. This is achieved:

a) skillful use of terrain and shelters; b) skillful maneuvering so as not to expose the side of your tank to enemy fire, which has a significantly larger area and, as a rule, weaker armor than its forehead; c) high speed of movement on the battlefield; d) a decrease in the geometric dimensions of the tank. Only the last points are affected by the technical characteristics of the tanks, mainly their power-to-weight ratio and the quality of their transmissions and suspensions, as well as their height, width and length. But everything depends on the tankers themselves, their knowledge of battle tactics and the ability to perfectly master their combat vehicle to a much greater extent. For example, if by reducing the geometric dimensions it is possible to reduce the probability of a projectile hitting a tank by only a few percent, then due to the skillful use of terrain and shelters, proper maneuvering and fast movement in battle, it can be reduced significantly. 3. Only its constructive protection

can save a tank from penetration into a projectile that has fallen into it. It is determined primarily by the thickness and quality of his armor, as well as the rational angles of its inclination. But there are other features as well. The armor of German tanks of that period was heterogeneous, or inhomogeneous, with a surface layer of high hardness, against which defective Soviet 45-mm shells broke, which became too brittle due to quenching.

Another characteristic feature of the German booking was its differentiation. The first modifications of the Pz.HI and Pz.IV were protected from all sides by equally thin bulletproof armor. The chassis, which was not designed for the weight required for this, did not allow making all the armor equally thick, so they began to thicken it first of all in front, where enemy shells were most likely to hit. But the armor of German tanks was vertical or with small angles of inclination, which did not provide a noticeable

increase its anti-ballistic resistance. Another drawback was the presence of evacuation hatches, which seriously weakened it. The hatches were cut into the sides of the turret, and for the Pz.III, they were also cut into the sides of the hull, between the caterpillar branches.

Only the already mentioned shortage of 76-mm armor-piercing shells, which was felt in the Red Army throughout the first year of the war, made life easier for the German tankers. If they were available, the T-34 and KV-1 could successfully penetrate the armor of German tanks at any real combat distances, which then, as a rule, did not exceed 800 m and were determined mainly by the capabilities of the sights. There were no armor-piercing shells for the 152-mm KV-2 gun at all. But this is natural, because it was designed to destroy powerful stationary fortifications, and not at all to fight tanks.

A well-known case is when on the third day of the war, June 24, 1941, the then Chief of the General Staff of the Red Army G.K. Zhukov instructed the commander of the 5th Army, M.I. tanks concrete-piercing shells. Zhukov apparently did not know that it was forbidden to fire a concrete-piercing projectile from the KV-2 gun, since it was 25% heavier than usual. As a result of the increased recoil momentum from this projectile, when using a regular powder charge, the turret support bearing failed, and it jammed. They did not have time to work out a special charge for this projectile before the start of the war. But the KV-2 was not really needed for anti-tank ammunition. The hit of a heavy 40-kilogram high-explosive 152-mm projectile in any German tank of that time led to its guaranteed destruction. These shells were enough, but the KV-2 crews were not trained to fire them at enemy tanks - after all, they were trained primarily to destroy stationary fortifications. And hitting a relatively small moving target from the KV-2 gun was extremely problematic due to its low initial speed and low rate of fire.

The armor protection of the KV was quite reliable even without a significant inclination of its sheets, only due to their thickness of 75 mm. For the German tank guns of that time, it was impenetrable. They could, at best, damage its undercarriage and

immobilize. To combat the KV, the Germans had to bring in heavy guns and anti-aircraft guns.

The armor of the T-34 also turned out to be a tough nut to crack for German shells, not only due to its thickness of up to 45 mm, but also because of its large angles of inclination to the vertical. At the front sheet, it was 60 degrees, which increased its equivalent thickness to 90 mm. The disadvantages of booking the "thirty-four" included the placement of a driver mechanic in the frontal sheet of the hatch body, which significantly weakened its strength, as well as the presence of thermal tempering zones in the area of welds, where the protective qualities of the armor were noticeably reduced. The drop in the protective properties of the armor is especially significant in the case of its connection with power seams, when the metal is welded through to the full thickness. It was with these seams that the T-34 hulls and its welded turrets were welded. At the same time, in the zones of thermal tempering near the welds, due to overheating of the armor during welding and the burnout of the carbon and alloying elements contained in it, the resistance of the armor fell by 2–4 times. As a result of this harmful phenomenon, German 37-mm tank and anti-tank guns could pierce the forehead of his hull in the area of the bow beam. The side of the hull and the welded turret of the T-34 were also pierced by them only in the area of the welds. Another weak point for the 37 mm shells were the driver's triplexes. But it was extremely unlikely to hit precisely these places, especially in a moving tank.

In German tanks, the power loads on the welds were perceived not by welding, but by spikes specially milled on the sheets to be joined. This made it possible to make the seams shallow and reduce their negative effect on the armor being joined. Everything had to be paid for by a large amount of pre-machining of armor plates, the need to increase the machine park - and, ultimately, an increase in the labor intensity and price of the tank. In addition, spiked joints are poorly adapted to automatic welding and require the use of highly skilled welders who scald them both inside and out. But in the German tank industry there were enough machines and specialists, and the growth in output

was limited mainly by the lack of raw materials and the possibilities of training tankers, which is why the Germans used this technology. In

KV tanks, welds were also not power, simply because in the USSR they still did not know how to weld armor plates of great thickness with continuous loaded seams. They had to be pre-assembled on rivets, bolts and goujons - special power studs. After this, the joints were scalded with shallow seams for sealing. This technology, like the German one, had little effect on the quality of the armor, but was highly labor-intensive, so it was impossible to manufacture KV tanks in large quantities.

Faced with the inability of their tank guns to fight the latest Soviet tanks, the Germans were forced to urgently organize the production of qualitatively new and much more effective ammunition for them - such as sub-caliber and cumulative shells. In the future, tanks and assault guns of the Wehrmacht began to be equipped with much more powerful long-barreled guns. A feature of German tank building was the use of exclusively rolled sheet armor in the production of tank hulls and turrets. The Germans did not use casting for this purpose. In the general case, rolled armor is 10–20% stronger than cast armor of the same thickness, because in the process of rolling it, the structure is leveled and internal defects of the armor steel are corrected, which lead to its hardening. The main labor productivity and low cost. Back in the mid-30s, the French were the first to widely use armor casting in the

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| benefits | casting | are | high |
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production of tanks. In the USSR, from the beginning of 1941, they began casting T-34 turrets, which were originally made welded. At the same time, in order to maintain strength, the thickness of their walls was increased to 52 mm instead of the previous 45. But the material for them was MZ-2 grade steel, which was not cast for its intended purpose and therefore acquired an inhomogeneous structure in the castings, in which shells, pores came across and looseness, weakening the protective properties of the armor. Only the T-34-85 turrets were cast from 71 L steel specially designed for this purpose, but this only began in 1944.

4. If the armor nevertheless turned out to be pierced, a number of measures can save the crew and tank from fatal damage. First of all, it is necessary to deal with the damaging factors of armor-piercing shells. In the period we are considering, the main anti-tank ammunition was caliber chamber armor-piercing shells, equipped with a small, compared to a high-explosive projectile, but quite powerful explosive charge. In addition to them, caliber chamberless armor-piercing shells or so-called blanks were used. Armor-piercing projectiles penetrate armor

due to their kinetic energy. In this case, if this energy is sufficient, as a rule, an armor plug is knocked out, the diameter of which is approximately equal to the caliber of the projectile. The armor-piercing damaging effect of a chamber armor-piercing projectile depends on its residual kinetic energy and on the high-explosive action of its explosive charge, while a chamberless high-explosive action, of course, is absent. It is clear that a chamber projectile has a much better armor action than a chamberless one, but its kinetic energy (and, accordingly, armor penetration) is slightly less due to its lower own weight - after all, the specific density of the explosive charge is less than the specific density of the metal from which the shell body is made. There are other factors that increase and exacerbate the effect of the shells

themselves. As a result of the penetration of the projectile into the tank, so-called secondary fragments are often formed there. These are fragments of the tank structure itself, its mechanisms and parts, formed as a result of their destruction, as well as loose objects involved in movement due to the impact on them of the kinetic energy of the projectile and the armor plug knocked out by it, as well as the high-explosive action of the explosive charge of the chamber armor-piercing projectile. Secondary fragments multiply and intensify the damage

to the tank, and also significantly increase the probability of hitting its crew, so you should try to keep their number to a minimum. Ideally, the result of breaking through the armor should be the appearance of only one of the aforementioned plugs of armor, which, moreover, should not be split into pieces. But in practice, it is often added

fragments that have broken off from the armor adjacent to the hole. In order to prevent their formation, the armor, especially its rear part, is tried to be made as viscous as possible without compromising its projectile resistance. Another measure to reduce the severity of the effects of armor penetration is to get rid of loose objects inside the tank and increase the strength of its structural elements and its mechanisms and parts, which, when destroyed, easily turn into deadly secondary fragments. This is especially important for the fighting compartment and the control compartment of the tank, where tankers are stationed.

It must be added that the shells that hit the tank and did not even penetrate its armor sometimes still cause damage to its crew and its mechanisms. The main reason for this is also the insufficient viscosity of the rear surface of the tank's armor, which, as a result of the enormous stresses caused by the impact of a projectile that did not even manage to penetrate it, leads to a breakaway of fragments from it that can cause wounds and injuries to tankers and damage to the tank. This was inherent in the armor of the T-34, especially its cast towers, in the first half of the war. Hardened to a relatively high hardness throughout its entire depth, the armor of these towers was prone to the formation of secondary fragments.

As a result of the process of penetrating the armor and the resulting transition of the kinetic energy of the projectile into heat, the projectile and the armor core (or their fragments, if they have split) that have penetrated inside the tank are heated to very high temperatures and acquire an incendiary effect. In the case of a chamber projectile, high-temperature gases are added to them, which are formed during the explosion of its charge. There are enough things in the tank that can ignite. First of all, these are fuels and lubricants, powder charges of ammunition, rubber products, paint, rags and clothing for tankers. The result of a fire in a tank is the explosion of its ammunition and fuel tanks. But even without them, a burnt tank completely fails and can no longer be restored, because as a result of prolonged exposure to high temperatures during a strong fire, tank armor loses its hardness and, accordingly, its protective qualities. In

addition, often due to uneven heating of a burning tank, irreversible deformations of the hull and turret occur, which are almost impossible

to correct. It makes no sense to repair such a tank - after all, it is much cheaper and faster to build a new one.

Adequate design measures were taken in German tanks to prevent fires. First of all, this is the isolation of the fuel tanks from the fighting compartment. The Pz.III tanks were located in the engine compartment, which was separated from the fighting compartment by an armored bulkhead. On the Pz.IV, they were located on the very bottom of the vehicle under the floor of the fighting compartment and were additionally protected from above by sheets of armor 11 mm thick. In addition, this part of the tank in battle is usually covered by terrain folds, and shells

are unlikely to hit it. But in the "thirty-four" fuel tanks were right in the fighting compartment, and there were as many as four of them, which significantly increased the likelihood of hitting at least one of them. The decision to place the tanks in such an unfortunate location was made as a result of a serious underestimation by the designers of the tank of the fire hazard of diesel fuel - which, in fact, is significantly lower

than that of gasoline. Let's take a quick look at the physics of this phenomenon. The most important characteristics of the fire hazard of any fuel is their flash and ignition points. The flash point is the lowest temperature of the fuel at which its vapors form with the oxygen contained in the air surrounding it, a mixture that flares up when an ignition source is brought to it - although stable combustion does not yet occur due to the insufficient rate of vapor formation. On average, the flash point of different grades of gasoline is in the range from -30 to -45 ° C, and diesel fuels - from +30 to +80 ° C. The ignition temperature is the lowest temperature of the fuel at which it releases vapors at such a rate that, after they are ignited by an external ignition source, the substance continues to burn steadily. The ignition temperature of gasoline is only 1–5 °C higher than its flash point, while for diesel fuel (diesel fuel) the difference between them reaches 30–35 °C.

Summarizing these data, we conclude that gasoline ignites easily at temperatures exceeding -25 ° C. In diesel fuel, favorable conditions for ignition are created at much

higher temperatures - at least +60 °C, and for some of its varieties - above +115 °C. These figures

eloquently explain why when a burning torch is brought to a bucket of gasoline, it instantly flares up, and when the same torch is quickly immersed in a bucket of diesel fuel, the fire goes out. This happens because the torch simply does not have time to heat the diesel fuel to the ignition temperature and goes out in its depth due to the lack of oxygen necessary for combustion. But

when a projectile or secondary fragments hit the fuel tank, completely different conditions are created. Here it is necessary to consider several

possible scenarios: 1. When a blank, shell fragments or armor hits a full tank, it breaks through and spills fuel. In this case, the fuel most often does not ignite, because the temperature and energy of the blank or fragments are not enough to ignite it. In this case, the tank serves as additional protection against fragments, which in many cases cannot even penetrate it through. 2. When a

chamber shell enters a full tank and explodes inside, the tank is completely destroyed and the fuel contained in it is splashed - in most cases, followed by its ignition.

3. When a blank, shell fragments or armor hits a tank filled with fuel only partially, it breaks through. If the tank is pierced above the fuel level, then the blank and fragments, as a rule, pass right through and do not cause a fire. If it is lower, then the probability of a fire starting depends on the ratio of the amount of fuel remaining in the tank and the amount of thermal energy that the fragments transfer to it. A small amount of fuel under these conditions may ignite. 4. The most

catastrophic consequences are caused by the explosion of a chamber shell in a tank filled to a quarter or less. In this case, an aerosol mixture of small droplets of fuel with air is formed, which is added to the fuel vapors already in the tank. The conditions for the occurrence of the detonation of such a deadly cocktail are high temperature and pressure, which increases abruptly to a huge value, created by the high-explosive action of the bursting charge of the chamber projectile. To

to start the detonation mechanism, this charge must be equivalent to a power of at least 50-100 g of TNT, which at that time corresponded to a chamber armor-piercing projectile with a caliber of 75 mm or more. The capacity of the fuel tank to create optimal conditions for detonation of mixture formation should be at least 100 liters. In tanks with a volume of up to 50 l, a noticeable increase in the high-explosive action of the projectile was not

observed. But in the event of its occurrence, the detonation of the fuel tank increased the high-explosive effect of the projectile that exploded in it by 2–4 times. Thus, the explosion of the T-34 tank, caused by a 76-mm armor-piercing projectile containing 150 g of TNT, corresponded to the explosion power of a 152-mm armor-piercing projectile with a charge of 400 g of TNT. As a result of the detonation of the tank, the armor plate nearest to the place of its occurrence was completely torn out of the hull along the weld and thrown to the side, while the tank turret, which is usually torn off from it in the event of an explosion of ammunition, remained in place. Even the shells in the tank, despite the detonation that occurred next to them, were often completely preserved in their packings. The fire almost never started, moreover, the fire that had started earlier was extinguished. This is easily explained - it was extinguished by a powerful shock wave created by the explosion. The diesel tank itself, after detonation inside it, disappeared without a trace, it simply shattered into dust. It is interesting to note that the explosion of a similar tank with gasoline was about 1.5 times weaker and did not cause destruction of the welded seams of the tank hull. As can be seen from the description of the fuel tank detonation mechanism and its consequences, all this fully corresponded to the process that occurs when a modern volumetric explosion ammunition is detonated, sometimes called a "vacuum bomb". As is known, its detonation velocity reaches 1500-1800 m/s, and pressure - up to 15-20 atmospheres. The mass velocity of the gas flow directed in the direction of wave motion reaches 600–800 m/s in this case. It was this monstrous force that tore even the strong power welds of the

Here it must be added that the high-explosive action of the 37-, 47- and 50-mm German armor-piercing shells was too weak to cause the thirty-four fuel tank to detonate. At the beginning of the war, only 88-mm Flak18 anti-aircraft guns could really cause it,

Flak36 or Flak37, as well as 105-mm heavy guns K. 18, which were relatively few on the front lines. After the Germans began using cumulative shells at the front at the end of 1941, cases of explosions from the impact of a cumulative jet of T-34 tanks, also filled with fuel only a quarter or less, began to be noted. In this case, only the vapors of diesel fuel contained in the tank itself were detonated, and their power corresponded to the charge equivalent of 30–50 g of TNT. This was enough to destroy the crew, but the hull of the tank was not destroyed.

The likelihood of a fire in the fighting compartment of the T-34 also increased significantly due to fuel leaks from the tanks located there. Most often, it was not the tanks themselves that leaked, but the dirty pipes connecting them. As a result of leaks, puddles of fuel appeared on the floor of the fighting compartment, which were easily set on fire by secondary fragments. As we know, it was there that boxes with shells were placed in the "thirty-four", and the consequences of their ignition are not difficult to predict. But this was not the worst: the diesel fuel oozing from the tanks soaked into the clothes of the tankers, which, moreover, was oiled in the process of refueling, repairs and maintenance of tanks and therefore ignited very easily. Putting out such clothes was almost impossible.

It should be noted that burning diesel fuel causes much more severe burns in people than gasoline. When gasoline gets on the skin, its vapors burn first of all, so tankers who escaped from burning tanks with carburetor engines often got off with relatively light burns. Blazing diesel fuel, unlike gasoline, sticks to the skin, burns three times slower than gasoline, and leaves very deep burns on the body, up to charring. Special incendiary mixtures, such as napalm, which are designed to stick to where they hit, burn for a long time and develop high temperatures at the same time, are made on the basis of heavy fuels, including diesel fuel, and not gasoline. A fire in the fighting compartment of a tank leads to the death of the people there if they do not

get out of it in time, so the chances of saving the lives of crew members increase if they have the opportunity to quickly leave their burning vehicle. On tanks

In Germany of the described period, each crew member had his own hatch, so according to statistics, in the event of a tank fire, all tankers often managed to jump out of it, and in the worst case, two out of five died. The German designers even went so far as to weaken the sides of the turrets of their medium tanks in order to give the crews better opportunities for urgent evacuation. But the main thing is that the Wehrmacht tankers in most cases had enough time to get out of their tank, because the fire there usually started in the engine compartment and did not always and did not immediately spread to the fighting compartment.

For the T-34, the statistics were much worse. The fire there often broke out in the fighting compartment because of the fuel tanks installed in it. In the worst case, no one managed to jump out of a tank that caught fire, and in the best case, two escaped, usually the commander and the driver. It was the driver who had the greatest chance of surviving: firstly, he sat low and was partially covered from enemy fire by uneven terrain, and secondly, he was protected by a 45-mm front plate inclined at an angle of 60 degrees to the vertical, which corresponded to an equivalent armor thickness 90 mm. The cutout under the driver's hatch weakened the frontal armor, but through it it was possible to quickly jump out of the tank. But the commander could leave the tank through his hatch in 11 seconds. This is a very long time, especially when life or painful death from fire is separated by moments. In winter, for tankers dressed in warm clothes, even 11 seconds became an unattainable result. And the gunner and the loader had to wait until it was their turn to get out, because they didn't have their own hatches. At KV-1, things were no better with evacuation: there were only 2 hatches for 5 crew members. In the event of a fire in the fighting compartment, it was often impossible to use the emergency hatch located in the bottom of the tank - burning diesel fuel spreading across the floor interfered.

It is often stated that tanks equipped with gasoline engines are much more fire hazardous than diesel tanks. As can be seen from the above facts, the fire hazard of a tank depends much more on its design and layout than on the type of its engine and type of fuel. The most fire hazardous of the Soviet tanks at that time

there were cars of the BT series, but the main reason for this was, again, the unsuccessful placement of its fuel tanks between the double sides of the hull in the engine area. They occupied a significant proportion of the lateral projection of the hull, and therefore the probability of their being hit

by a projectile was very high. It is not possible, as it often happens, to call all Soviet pre-war tanks equipped with gasoline engines as fire hazardous. We have already considered an example from the Finnish war, when out of 482 cases of combat damage and breakdowns of the T-28, only 20 led to a tank fire, which put it out of action forever. Such impressive statistics convincingly prove that the competent arrangement of fuel tanks and the effective fire-fighting system installed on the T-28 successfully minimized the number of fatal fires of this tank after penetrating its armor. And this despite the use of gasoline as a fuel. Some uninformed people seriously believe that the German designers did not equip

their tanks with diesel engines just because they failed to develop them. This statement is in no way true. German engineers had extensive experience successfully designing a variety of diesel engines for trucks, locomotives, ships and even aircraft. As you know, Rudolf Diesel, who invented this type of motor, was a German. But during the Second World War in Germany, there was an acute shortage of diesel fuel, the Germans could not synthesize it, unlike gasoline, and the navy was its main consumer in the Reich. Diesel engines were equipped with many German warships, including even "pocket" battleships. A particularly large number of diesel engines were used in submarines.

It was the acute shortage of diesel fuel that became the main reason for the use of carburetor engines on German tanks during World War II. But there were others. Gasoline was issued for the ground forces, on which tanks, tractors, cars, and motorcycles went. This greatly simplified the supply of fuel to the army. And the carburetor engine itself has a number of significant advantages over a diesel engine:

- less weight and dimensions with the same power; — a larger operating range of revolutions; - ease of manufacture and low cost; — ease of start at low temperatures;
- the best overclocking characteristics.

Its main disadvantage compared to diesel is low efficiency. Because of it, tanks equipped with a gasoline engine have a relatively short range. But the Germans then did not consider this defect significant.

The result of the first battles

The initial period of the Great Patriotic War passed under German dictation. The Wehrmacht already had experience fighting French and British tanks protected by anti-shell armor, so the Soviet ones did not come as a big surprise to the Germans. The German field artillery was quite successful in the fight against any tanks of the Red Army - although anti-aircraft and heavy guns often had to be involved against the T-34 and KV.

The German infantry did not lag behind their gunners, despite the fact that their regular anti-tank weapons were ineffective against the armor of the T-34 and KV. The Germans most often used simple and affordable means: grenades, mines, high-explosive charges, bottles with a combustible mixture and canisters of gasoline. First of all, they tried to immobilize the tank by firing at its undercarriage. When they succeeded, they approached him, taking advantage of his poor visibility or blinding the tankers with smoke grenades or bombs. After that, the Germans blew up or set fire to the tank, and sometimes simply broke open the hatches locked from the inside with crowbars or sledgehammers and destroyed or captured its crew. Here, the lack of support for Soviet tanks from their own infantry and artillery, which was not uncommon at the beginning of the war, and their lack of funds and skills to interact with each other, affected. Of the Soviet tanks in the initial period of the war, the KV proved to be the best. It

was they who were most often mentioned by the Germans in their diaries and memoirs of that time. But the reason for this was not only their outstanding armor protection. The crews of these tanks before the war were staffed from one commander, only a driver mechanic could be a foreman. It is clear that they fought much more effectively than simple conscripts who served on other

tanks.

"Thirty-fours" attracted the attention of the Germans only in the fall of 1941, when they began to be more competently used in defense, using the tactics of mobile ambushes with frequent changes in pre-prepared advantageous positions and with well-aimed fire from a place.

Ambushes were skillfully combined with short surprise counterattacks. Prior to this, the main type of battle for the tanks of the Red Army was only an attack. They attacked without proper preparation, reconnaissance, support and interaction, and attacked not only on the offensive. No one was engaged in digging in tanks, equipping defensive positions for them; in defense, tanks also had to attack first of all. At the same time, shooting was carried out in most cases on the move. But

for tanks of that time that were not equipped with weapon stabilizers, the probability of hitting a target on the move decreased by 3-3.5 times. At the same time, the rate of fire fell by 1.5–2 times. Thus, the overall effectiveness of fire on the move was 4.5–7 times inferior to the effectiveness of fire from a place. It is no coincidence that for German tanks, shooting from a place or from short stops was the main type.

fire.

At the beginning of the war, Soviet tankers were significantly inferior to the Germans in training, especially tactical. The behavior of the Germans in battle and when meeting with Soviet tanks was described in his report in mid-July 1941 by the commander of the 7th mechanized corps, Major General V. I. Vinogradov:

“The tactics of the operation of tanks and anti-tank artillery are as follows: the column is accompanied

by aviation, the direction of movement of the column is ensured by the processing of the terrain in depth (bombing, machine-gun fire, reconnaissance by spotter aircraft, photographing), which paralyzes the rear and active units.

b) At the moment of contact with our forward units at the most advantageous line, it automatically detaches

anti-tank weapons, which immediately open fire, and the tanks form maneuverable groups and act on the flanks. Tanks, as a rule, fire from a place, while in defense tanks are used as a means of anti-tank defense (digging in on the tower). And here is what the already mentioned Directive of the commander of the troops of the North-Western Front No. 0127 of August 5, 1941 “On shortcomings in the use of

and actions of tanks together with combined arms formations and measures to eliminate them ":

"It was noted that the enemy, before each of his offensives, as a rule, carefully organizes the interaction of all branches of the armed forces. The offensive is preceded by a short powerful artillery and mortar raid on the location of our troops, reinforced by air action.

Enemy tanks, before the start of the general attack, are usually used to reinforce the fire raid by firing their guns from the spot from the trenches. Under the cover of artillery and infantry fire, tanks, together with infantry, attack the fortifications of the defense, usually only after the fire of our anti-tank artillery is suppressed. The advance of the battle order proceeds

methodically along the lines. Having reached a certain line with the help of tanks, the infantry is immediately fixed on it. During this period, the tanks dig in and, with their fire, provide the

infantry with the organization of the defense of the captured line. During the same period, artillery was brought up, mainly [mostly] anti-tank guns and mortars. After that, a jump to the next frontier is organized. Several cases were noted when, when the infantry took possession of the next

line, part of the tanks and firepower was delayed at the already occupied line, making up, as it were, the second echelon. These funds are used to hold the line, in case of unsuccessful actions of the "first echelon", and to perform bypass actions due to the battle order in front of the active troops.

In defense and even in preparation for the offensive, tanks dig into the ground."

Particularly sad against this background are the shortcomings in the use of Soviet tanks, described in the above-cited HKO Order No. 325 of October 16, 1942 "On the combat use of tank and mechanized units and formations" : *tank units, we still have major shortcomings.*

The main disadvantages are as follows:

1. When attacking the enemy defenses, our tanks break away from the infantry and, breaking away, lose interaction with it. The infantry, being cut off from the tanks by enemy fire, does not support our tanks with their artillery fire. Tanks, breaking away from the infantry, fight in single combat with enemy artillery, tanks and infantry, while suffering heavy losses. 2. Tanks rush

to the enemy's defenses without proper artillery support. Before the start of a tank attack, artillery does not suppress anti-tank weapons on the front line of the enemy's defense, tank support guns are not always used. When approaching the enemy's forward edge, the tanks encounter enemy anti-tank artillery fire and suffer heavy losses.

Tank and artillery commanders do not link their actions on the ground in terms of local objects and along lines, they do not establish call signals and a cease-fire for artillery.

Artillery commanders supporting a tank attack direct artillery fire from remote observation posts and do not use radium tanks as mobile forward artillery observation posts. 3. Tanks are brought into battle hastily, without reconnaissance of the

area adjacent to the front line of the enemy's defense, without studying the area in the depths of the enemy's position, without a thorough study by the tankers of the enemy's fire system. Tank commanders, having no time to organize a tank

attack, do not bring the task to the tank crews, as a result of ignorance of the enemy and the terrain, the tanks attack uncertainly and at low speeds. Shooting is not carried out, limited to shooting from a place, and even then only from guns.

As a rule, tanks on the battlefield do not maneuver, do not use the terrain for a covert approach and a sudden strike on the flank and rear, and most often attack the enemy

in the forehead. Combined-arms commanders do not set aside the necessary time for the technical preparation of tanks for combat, they do not prepare the terrain in engineering terms in the direction of the tanks' action. Minefields are poorly explored and not cleared. Passages are not made in anti-tank obstacles, and proper assistance is not provided in overcoming difficult-to-pass

areas of the area. Sappers are not always allocated to escort tanks. This leads to

the fact that tanks are blown up by mines, get stuck in swamps, on anti-tank obstacles and do not participate in combat. 4. Tanks do not fulfill their main

task of destroying enemy infantry, but are distracted by fighting tanks and artillery. The practice of countering enemy tank attacks with our tanks and getting involved in tank battles is wrong and harmful.

5. Combat operations of tanks are not provided with sufficient air cover, air reconnaissance and air guidance. Aviation, as a rule, does not escort tank formations in the depths of enemy defenses, and air combat operations are not linked to tank attacks.

6. Management of tanks on the battlefield is poorly organized. Radio, as a means of control, is not used enough. The commanders of tank units and formations, being at command posts, break away from the battle formations and do not observe the action of tanks in battle and do not influence the course of the tank battle.

The commanders of companies and battalions, moving ahead of the battle formations, do not have the opportunity to monitor the tanks and control the battle of their units and turn into ordinary tank commanders, and the units, having no control, lose their bearings and wander around the battlefield, incurring unnecessary losses.

It is especially disappointing that all these outrages continued to occur even after the accumulation of a year of experience in intensive hostilities, acquired at the cost of heavy losses. But many of them were mentioned on August 21, 1941 in

his order to the troops of the Reserve Front No. 005 "On shortcomings in the use of tanks and measures to eliminate them" by its commander G.K. Zhukov:

"Based on the experience of the battles in the Yelnya region, I established the unacceptable illiteracy of using tanks and tank units in battle, which, as a result of improper use, suffered heavy losses in manpower and materiel.

The commanders of formations did not give time to conduct tank reconnaissance and to organize the interaction of tanks, infantry, artillery and aviation. Interaction was organized not on the ground, but far from the battlefield, on maps. The tanks

rushed to the attack without any information about the location of the enemy's fire system and the nature of the terrain. The commanders of units and combined-arms formations set obscure and dubious tasks for the tank; aviation, infantry and artillery support for tanks was not organized.

Mutual identification, call for fire and target designation were not organized. There were cases of tanks being destroyed by their own artillery due to the inconsistency of artillery fire. When the tanks moved forward, the infantry, as a rule, did not advance behind the tanks and did not consolidate the lines captured by the tanks. Tanks, acting alone, suffered needless losses and returned back to their original position.

Tank commanders did not show the necessary firmness in front of the combined arms commanders in the matter of the correct use of tanks; carelessly let go of the leadership of the armored infantry support groups; did not organize the evacuation of damaged, stuck tanks from the battlefield; did not take measures to immediately send tanks to the assembly points of emergency vehicles for their repair and quick commissioning ... ” These

documents more than eloquently describe to us the reasons for the superiority of German tank units, units and formations over Soviet ones in the first period of the war. It is especially significant that no technical advantages and disadvantages of the tanks themselves are not even mentioned here. And this is completely natural, because it was not at all about them. Tanks developed in different countries at about the same time and designed to solve similar tasks, as a rule, are close to each other in terms of a set of combat qualities. In some respects they are somewhat superior to their rivals, in some they are inferior to them, but no tanks have fundamental advantages over other tanks - their peers of the same class with them, allowing them to predetermine the outcome of the battles in which they participate. The human factor has an incomparably greater influence on the results of battles. The most advanced tank cannot compensate for poor training

his crew and the illiterate use of his command. It is not the tanks themselves that are fighting, the tankers are fighting, and those who can better use both the advantages of their tank and the shortcomings of the enemy win.

Of course, success largely depends on the strategy and tactics of using tank units, their training, organization, management, supply, interaction with other branches of the military, etc., etc. And, of course, the military leadership should strive to plan combat operations in such a way way to create better conditions for their own forces and worse for the enemy. But this is a topic for another work. The German General F.

Mellenthin commented on the unsuccessful experience of the formation and use of the first Soviet tank armies in 1942: "It seemed to us that the Russians had created an instrument that they would never learn to play." But at the end of 1943, both he and the entire Wehrmacht had to be convinced of the fallacy of this prediction. The Soviet tank armies, together with the tank and mechanized corps of the new organization, became a powerful tool, under the blows of which the German defense collapsed. And this could not be prevented by the latest German "Tigers" and "Panthers", "Elephants" and "Jagdtigers", despite all their awesome power and animal names. Wars are won and lost not by tanks, but by people.

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